

Section IV
PORT OF PORTLAND



PORT OF PORTLAND

ANNUAL REPORT

**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
PERMIT (NO. 101314)**

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GLOSSARY OF ABBREVIATIONS**APPENDIX: PORT OF PORTLAND TENANT NPDES PERMITS**

1.0 INTRODUCTION

The Port of Portland (Port) manages stormwater runoff from its properties to protect the environment, to minimize flood damage, to prevent nuisance conditions from developing, and for public safety. The Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from Port properties through the Municipal Separate Storm Sewer System (MS4) Discharge Permit No. 101314 (Municipal Permit) and other National Pollutant Discharge Elimination System (NPDES) stormwater permits.

As a co-permittee authorized to operate under the Municipal Permit, the Port is required to report its accomplishments during each permit year. The 2003-2004 year represents the ninth annual report submittal.

The following sections of this annual report document the results of the Port's stormwater management efforts during the past permitting year. The report emphasizes the efforts and activities associated with individual Best Management Practices (BMPs).

2.0 PORT OF PORTLAND PROPERTIES

The Port owns approximately 6,500 acres within the City of Portland (City) Urban Services Boundary. This acreage includes three operating areas and undeveloped properties, such as wetland mitigation sites. Operating areas consist of (1) the Portland International Airport (PDX), (2) the four Marine Terminals, and (3) several industrial parks occupied by commercial tenants.

2.1 Portland International Airport

PDX comprises an area of approximately 3,200 acres and is located in northeast Portland between the Columbia River and the Columbia Slough. The facility is owned and operated by the Port, and it serves numerous aviation-related tenants. Stormwater runoff from the PDX property discharges into the Columbia Slough through a series of nine major outfalls authorized under the NPDES General 1200-COLS Industrial Stormwater Discharge Permit. This permit is specifically structured to address Columbia Slough Total Maximum Daily Load (TMDL) parameters, including dissolved oxygen (DO), pH, nutrients, bacteria, and toxics. With the exception of the Oregon Air National Guard, which has its own 1200-COLS permit, PDX tenants whose operations require stormwater permits are co-permittees with the Port under the 1200-COLS Permit. PDX also holds a NPDES Construction Dewatering Waste Discharge Permit, a NPDES Anti-icing/Deicing Waste Discharge Permit, a City of Portland Pretreatment Permit, and a Water Pollution Control Facility (WPCF) 1700-B Wastewater Permit. All tenants at PDX who conduct deicing activities are required to be co-permittees under the Anti-icing/Deicing Permit, or to obtain their own permit.

2.2 Marine Terminals

The Marine Terminals operating area consists of four active shipping terminals that are managed by the Port's Marine Department. The terminals collectively occupy approximately 869 acres along the Willamette (Terminals 2, 4, and 5) and Columbia (Terminal 6) Rivers. These areas handle the shipping, receiving, and temporary storage of finished goods, agricultural products, and raw materials. The Port previously owned and operated Terminal 1 (Willamette River), managing it as an industrial property following its closure as a public marine cargo facility in 1989. The Port completed the sale of Terminal 1 in February 2004.

The Port holds both a 1200-Z (Columbia River) and 1200-COLS (Columbia Slough) NPDES permit for Terminal 6. The majority of the properties located at Terminals 2, 4 and 5 are leased to various tenants who may hold their own NPDES permits.

2.3 Industrial Parks

The Port's Property and Development Services Department manages Port-owned industrial parks, including Swan Island, Port Center, Mocks Landing, Rivergate, Portland International

Center (PIC), Troutdale Industrial Park, and Brookwood Corporate Park. The Troutdale (75 acres) and Brookwood (22 acres) properties are located outside of the Municipal Permit area and are not discussed further in this report. The remaining areas occupy approximately 1,700 acres. The Port leases approximately 80% of its industrial park property to private commercial operators. Many of these tenants hold industrial discharge NPDES permits. Additionally, Port tenants may be required to obtain a 1200-C General NPDES Permit for new construction or development.

2.4 Undeveloped Properties

The Port's Property and Development Services Department manages approximately 900 acres of undeveloped property within the Urban Services Boundary. Areas include West Hayden Island, Albina Dock, undeveloped property beneath the Broadway Bridge, and several wetland mitigation sites. The mitigation sites cover over 650 acres and feature a variety of wetland types (i.e., emergent, scrub-shrub, forested, etc.).

3.0 ORGANIZATIONAL STRUCTURE AND COMMITMENT

The Port's Environmental Affairs Department is responsible for administering the Municipal Permit and the Municipal Stormwater Management Plan (MSWMP). Environmental staff from each operating area are responsible for implementing Port environmental programs and for ensuring permit compliance. As a means of coordinating Port-wide programs and policies, Environmental Affairs Program Managers regularly meet with Port operating area staff.

The Water Resources Coordination Group (WRCG) includes environmental staff from the corporate office, operating areas, and engineering. This group meets monthly and is responsible for coordination on Port-wide stormwater policy issues, permit matters, training, and communication. The Environmental Affairs Water Resources Program Manager (also the MS4 Permit Manager) serves as the lead for the WRCG.

Operating areas with NPDES Industrial Stormwater Discharge Permits are required to prepare and maintain Stormwater Pollution Control Plans (SWPCPs) for their facilities. Port staff at PDX prepare and update the SWPCP in conjunction with its co-permittees, and Marine staff prepare and update the SWPCP for Terminal 6.

4.0 STORMWATER MONITORING DATA

The Port's Stormwater Monitoring Program, submitted to DEQ in 1998, defines the Port's approach to meeting the Municipal Permit monitoring requirements. This included the Illicit Discharge Detection and Removal Program (IDDRP), BMP effectiveness monitoring, and industrial permit monitoring. BMP effectiveness monitoring was concluded during the first permit term. Monitoring components of the second permit term include stormwater sampling associated with the Port's industrial NPDES permits, and dry season monitoring as part of the IDDRP. The Port also voluntarily monitors water quality at select mitigation sites.

Land use characterization monitoring continues to be performed by the City as required by the Municipal Permit, with the Port providing financial support for this effort. This arrangement is documented in an August 5, 1999 agreement signed with the City, which states that the Port will pay its percentage of the monitoring costs until 2005. The City's monitoring program initially focused on characterizing pollutant concentrations in urban runoff from various land uses. In permit year two, the City requested that DEQ allow modifications to de-emphasize land use based monitoring and more effectively direct resources toward acquiring new information to support the development and refinement of stormwater management activities. In February 1998, DEQ approved the new program for the remainder of the permit term.

In addition to the industrial stormwater permit monitoring discussed in Section 4.1, the Port collects and submits monitoring data to DEQ for the NPDES permits listed below. These are not components of the Port's stormwater monitoring program but provide useful information regarding the Port's activities. Data collected for these permits is not included in the Municipal Permit annual report, but can be made available through the Port or DEQ upon request.

- NPDES Anti-icing/Deicing Waste Discharge Permit, DEQ File No. 101647 (PDX)
- NPDES Construction Dewatering Waste Discharge Permit, DEQ File No. 101588 (PDX)
- NPDES 1700-B Water Pollution Control Facility (WPCF) Wastewater Discharge Permit, DEQ File No. 107220
- NPDES Dewatering Permit, DEQ File No. 107220

4.1 Industrial Permit Monitoring

Stormwater sampling at PDX and T-6 is required for stormwater general industrial permit compliance, however, the monitoring also provides useful data about Port industrial properties. This monitoring is an appropriate component of the Stormwater Monitoring Program. The data resulting from the site runoff sampling has been and will continue to be useful for understanding water quality impacts from these different types of industrial land uses.

The Port submitted stormwater monitoring data to DEQ for the following industrial stormwater discharge permits:

- NPDES 1200-COLS Industrial Stormwater Discharge Permits, DEQ File Nos. 107220 and 111492 (PDX and Terminal 6, respectively)
- NPDES 1200-Z Industrial Stormwater Discharge Permit, DEQ File No. 103594 (Terminal 6)

This data is not included in the Municipal Permit annual report, but is available through the Port or DEQ upon request.

4.2 Dry Season Inspection Monitoring

The Port's dry season monitoring effort is part of the Illicit Discharge Detection and Removal Program (IDDRP) and is designed to detect non-stormwater discharges from Port-owned outfalls. Dry season monitoring occurs on a 5-year rotation with certain priority outfalls being monitored annually, such as the outfalls at PDX. If the inspector observes a discharge that is not a permissible discharge as outlined in 40 CFR 122.26(d)(2)(iv)(B)(1), the inspector documents visual observations, investigation procedures are initiated, and water samples are collected for laboratory analysis, if needed, to aid in determining the source of the flow. Port staff schedule follow-up investigations and inspections as necessary.

PDX

PDX environmental staff performed dry season inspections of all of its outfalls on August 25 and 26, 2003. Low-volume flows were observed in some outfalls. The presence of water in these outfalls was attributed to groundwater infiltration, a permissible discharge. Odors, sheens, discolorations, or other evidence of non-permissible discharges were not noted during the inspections, and no follow-up sampling was deemed necessary.

Marine Terminals

Marine environmental staff performed dry season inspections over a period from July 30 to September 3, 2003. The 2003 inspection schedule included outfalls at Terminals 2, 4, 5, and 6.

Flow was not observed in the outfall that was inspected at Terminal 2, or in the two outfalls that were inspected at Terminal 4. Three outfalls located at Terminal 4 (SJ21PP, SJ22PP, and SJ25PP) that were scheduled for inspection during the 2003 dry season were not monitored due to construction associated with the Toyota Redevelopment Project.

Three outfalls located at Terminal 5 were inspected in August 2003. One of these outfalls was observed to be dry. However, discharges were present in two of the Terminal 5 outfalls (RG12.5PP and RG13PP). Follow-up investigations indicated that the water observed in outfall RG12.5PP likely came from two sources: a nearby irrigation system and drainage from an off-site structure. The exact source of drainage from the off-site structure could not be determined with certainty, but Port staff thought that the water may have been air conditioning condensate or was rainwater slowly releasing to the systems from an obstructed roof drain. Samples of the discharge were collected from the outfall, and laboratory analysis did not indicate elevated levels of any parameters of concern. RG12.5PP is on the list of priority outfalls scheduled for yearly inspections.

The discharge observed within RG13PP was also investigated and determined to likely have resulted from sprinkler irrigation runoff. RG13PP is a priority outfall scheduled for yearly monitoring.

Four outfalls located at Terminal 6 were inspected in August 2003. Flow was not observed in three of these. A discharge was noted, however, in outfall RG10PP. It was determined that the discharge originated from a tenant structure and that it likely consisted of automobile wash water. The Port followed up with the tenant, advising that wash water discharges to the stormwater system are not allowed without a permit. RG10PP is a priority outfall scheduled for yearly inspections.

Industrial Properties

Property and Development Services staff performed dry season inspections of the majority of the outfalls that it manages, including all outfalls identified in the Port's MSWMP as scheduled for 2003 monitoring. The inspections were performed in July and covered a total of 40 outfalls located in the Rivergate Industrial District (23 outfalls), Swan Island Industrial Park (11 outfalls), and PIC (6 outfalls).

Discharges were not observed at the majority of the outfalls inspected. In instances where a discharge was noted, Property and Development Services staff determined whether or not the discharge originated from a permitted source (i.e., tenants with individual permits). For discharges with no known permitted source, the Port performed follow-up actions, including providing telephone and email notifications to City BES staff for outfalls discharging from City property and issuing letters to tenants potentially responsible for the discharges.

5.0 STORMWATER EXPENDITURES

From a financial perspective, the Port has two primary areas of activity: (1) Portland International Airport (Airport); and (2) Marine/Other. Airport resources are derived primarily from charges to passenger and cargo airline customers, airport parking, rental car revenue, passenger facility charges, and Federal grants. Airport resources are restricted by bond ordinances and Federal Aviation Administration regulations for use at the Airport.

Resources for Marine/Other are primarily derived from fees, charges and leases with Marine customers, leases with tenants of the Port's industrial parks, sales of property at the industrial parks, revenues from the U.S. Army Corps of Engineers (USACE) for dredging services, and property taxes.

Port stormwater expenditures are distributed among five departments: Marine, Property and Development Services, Aviation, Engineering, and Environmental Affairs. The expenditures include Port staff salary (including benefit costs), contractor and consultant fees, stormwater infrastructure, training, and outreach materials.

The Marine Department spent approximately \$155,520 in fiscal year 2003-04 on stormwater expenditures and estimates that expenditures for 2004-05 will be similar. Property and Development Services allocated approximately \$68,800 for stormwater-related needs during the 2003-04 permit year and also estimates that expenses for 2004-05 will be similar. The Port's Aviation Department (PDX) spent approximately \$1,236,960 for stormwater during permit year nine, and plans to spend approximately \$1,156,960 for fiscal year 2004-05. Stormwater expenditures for the Port's Engineering Department totaled approximately \$255,960 for fiscal year 2003-04, which is also the estimated total for 2004-05. The Environmental Affairs Department designated approximately \$161,030 for stormwater-related uses in 2003-04, and projects that it will spend approximately \$396,820 in 2004-05, an increase largely due to the addition of staff and projected consultant fees for Stormwater Management Plan (SWMP) revisions and BMP analysis.

Table 1. Port Stormwater Expenditures

Department	Estimated 2003-04 Stormwater Expenditures	Estimated 2004-05 Stormwater Expenditures
Marine	\$155,520	\$155,520
Property & Development Services	\$68,800	\$68,800
Aviation	\$1,236,960	\$1,156,960
Engineering	\$255,960	\$255,960
Environmental Affairs	\$161,030	\$396,820
Total	\$1,878,270	\$2,034,060

6.0 INSPECTIONS AND ENFORCEMENT ACTIONS

As described in Section 4.0 of this report, the Port performs dry season inspections of stormwater outfalls as part of the Illicit Discharge Detection and Removal Program (IDDRP). When non-permissible discharges are detected, the Port initiates investigation procedures and conducts follow-up investigation and inspections as necessary. The Port may also take enforcement actions against its tenants if it is determined that a violation of their lease or stormwater use agreement occurred that contributed to an impermissible discharge. However, no such enforcement actions were taken by the Port during the 2003-04 reporting year.

7.0 DEMONSTRATION OF CONTINUED LEGAL AUTHORITY TO IMPLEMENT THE PROGRAMS OUTLINED IN THE SWMP

The Port has authority to implement programs outlined in the SWMP through ordinance, permits, and contracts.

The Port has statutory authority to enact ordinances to regulate stormwater sewers that it owns, operates, maintains, or controls. On March 11, 1992, the Port Commission adopted Ordinance No. 361, which provides the Port with legal authority over persons in possession of land owned by the Port. Ordinance No. 361 prohibits such persons from making, causing, or allowing an illicit discharge into a storm sewer owned or operated by the Port. Section 4 of the Ordinance requires written permission from the Port before connection to a Port storm sewer. Section 5 of the Ordinance authorizes the Port to inspect the land and storm sewers for violations of the Ordinance or applicable law that governs the conveyance or disposal of stormwater. In addition, the Ordinance provides the Port with authority to control the contribution of pollutants to storm sewers owned or operated by the Port; the quality of stormwater discharged from the sites of industrial activity on land owned by the Port; and the discharge to storm sewers owned or operated by the Port of pollutants from spills, dumping, or the disposal of materials other than storm water.

In addition to the Ordinance, the Port has legal authority to control contribution of pollutants to the municipal storm sewer through contracts with its tenants. The lease agreements require the lessees to comply with the Port's MS4 permit. Where appropriate and necessary, the Port has also entered into stormwater agreements to help control the contribution of pollutants to Port storm sewers. Some properties also have separate stormwater permits, with the Port and tenants as co-permittees. Through these regulatory and contractual mechanisms, the Port is working with tenants and users of Port facilities to implement and evaluate best management practices that will control the contribution of pollutants to Port storm sewers.

8.0 BMP ACCOMPLISHMENTS FOR PERMIT YEAR NINE (2003-2004)

8.1 General BMP Categories

The Port and its co-permittees developed eight general BMP categories during the permit renewal process for the second term of the Municipal Permit. These general categories provide a framework for co-permittees to improve interagency consistency and coordination. Within these categories, each co-permittee identifies specific BMPs that apply to their respective operations. The eight general BMP categories are listed below:

BMP Code	BMP Action
<i>Public Involvement/Education (PI)</i>	Inform and educate the public, business, industry, and government about the causes of stormwater pollution and its effects on local streams and rivers; to encourage active participation in pollution reduction efforts.
<i>Operation and Maintenance (OM)</i>	Improve existing and/or implement new operation and maintenance practices for public streets, sewers, and other facilities that reduce the amount of pollutants entering the storm sewer system and waterways.
<i>Industrial/Commercial Controls (IND)</i>	Reduce and control industry and commercial discharges to the storm sewer system from runoff and production practices.
<i>Illicit Discharges Controls (ILL)</i>	Develop a program to investigate, find, and eliminate illicit discharges to the stormwater system (illicit discharges include both illicit connections and illegal dumping).
<i>New Development Standards (ND)</i>	Ensure that pollutant controls are applied in project planning, during construction phases, and for existing projects.
<i>Structural Controls (STR)</i>	Incorporate onsite stormwater quality and transport systems into design standards for new and remodeled development; to evaluate, construct/retrofit, and monitor appropriate stormwater treatment and transport systems for both existing and new development.
<i>Planning/System Preservation and Development (PS)</i>	Develop incentives and policies for preservation of natural areas; to modify zoning codes to improve water quality.
<i>Other Activities (OA)</i>	Ensure program coordination, management, evaluation, and monitoring.

8.2 Port-specific BMP Categories

Within the general BMP categories listed above, the Port has developed fifteen sub-categories that are specific to Port activities. These subcategories are listed below.

BMP Code	BMP Action
<i>Port-PI1</i>	Conduct public outreach and support programs that increase public awareness of the importance of water quality protection.
<i>Port-PI2</i>	Inform employees and tenants of new stormwater pollution control efforts and activities in each Port operating area. Provide guidance for implementing the programs, where applicable. Participate with the City of Portland and community groups in promoting educational programs that relate to Port operations.
<i>Port-OM1</i>	Evaluate and update stormwater maintenance practices that affect water quality at stormwater quality facilities.
<i>Port-OM2</i>	Evaluate operations and maintenance of Port roads and vehicle maneuvering areas to determine water quality impacts. Recommend procedures or practices to reduce the discharge of pollutants to the stormwater system.
<i>Port-OM3</i>	Review landscape maintenance practices. Recommend the use of vegetation that reduces the need for pesticides, herbicides, fertilizers, and water, where practical.
<i>Port-IND1</i>	Develop a program to reduce the discharge of pollutants to the stormwater system from existing and developing industries on Port property, particularly focused on those that are not already regulated by other NPDES requirements.
<i>Port-ILL1</i>	Review required spill response procedures in each operating area. Refine procedures as necessary, including improving interagency coordination.
<i>Port-ILL2</i>	Provide information to employees and tenants on where and how to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful materials.
<i>Port-ILL3</i>	Detect and control illicit connections and discharges to the stormwater system.
<i>Port-ILL4</i>	Reduce the potential for illegal dumping through active property management.
<i>Port-ND1</i>	Apply practical erosion and sediment controls to reduce pollutant discharges at construction sites on properties being developed by the Port.

BMP Code	BMP Action
<i>Port-STR1</i>	When warranted and appropriate based on available water quality monitoring data, develop procedures for construction, maintenance, and monitoring of water quality facilities.
<i>Port-OA1</i>	Coordinate with applicable agencies working on regulatory aspects of water quality protection, including watershed management, combined sewer overflows, solid waste and recycling, and industrial waste and source control. Cooperate with agencies to implement new source or non-point source control practices where water quality data indicate the need for stormwater quality improvement.
<i>Port-OA2</i>	Promulgate policy and practices to address stormwater pollution issues on all Port property.
<i>Port-OA3</i>	Monitor stormwater to characterize typical discharges to the Port's municipal system.

The remainder of this report describes the activities within each of these BMP categories during the past permit year.

Port-PH	Conduct public outreach and support programs that increase public awareness of the importance of water quality protection.
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The Port supports a variety of public outreach programs and events focused on increasing public awareness of water quality issues. The Port's support and participation ranges from hosting public events to funding environmental programs through grants to actively coordinating with other organizations on public outreach campaigns.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port hosted quarterly Environmental Forums to provide representatives of regulatory agencies, tribes, environmental groups, and elected officials' staff with an opportunity to learn about environmental aspects of the Port's business and provide feedback. The May 2004 Forum, for example, included a presentation on the Toyota Redevelopment Project at Marine Terminal 4 and the environmental considerations, including stormwater management, that were incorporated into the project.
- The Port continued to publish quarterly its *Port Currents* newsletter, which provides information to the public on environmental and community issues. The Spring 2004 issue, for example, featured a story on stormwater system enhancements and other environmental improvements performed as part of the Toyota Redevelopment Project at Marine Terminal 4.
- The Port continued to publish *Portside*, a publication featuring news and information about airports, marine terminals, industrial parks, and environmental programs. The Summer 2004 issue of this newsletter featured a story on the completion of the Port's pilot project to install 100% biodegradable wool stormwater catch basin inserts at its industrial properties.
- The Port continued to publish and make available to the public its *Environmental Annual Report*. This annual publication documents the Port's environmental accomplishments for the reporting year, and outlines objectives and targets for the upcoming fiscal year.
- The Port issued a news release and held an Earth Day media event in April 2004 regarding its pilot project for installing 100% biodegradable wool stormwater catch basin inserts at its industrial properties. The story was covered and aired by a local television station.
- A story highlighting the Port's pilot project for utilizing biodegradable wool stormwater catch basin inserts was featured in an April 2004 issue of the *Daily Journal of Commerce*.

- Port staff wrote an article detailing the Marine Terminal 4 Toyota Redevelopment Project that appeared in an April 2004 issue of *Oregon Insider*, a publication covering statewide environmental issues. The article focused on environmental facets of the project design, and included a discussion specifically related to the stormwater management system at the site.
- The Port provided a grant to the City of Portland's Office of Sustainable Development G/Rated Program and Ecotrust for the 2004 ReThink Series classes, the focus of which were innovative design strategies and construction practices for reducing the built environment's contribution to climate change. The Series included a class devoted to restorative stormwater design, which presented strategies for making rainwater a site resource.
- The Port's Project Delivery System was utilized to involve internal and external stakeholders in project development. For example, the Toyota Redevelopment Project at Terminal 4 involved community group participation in the design to restore the Willamette riverbank to native conditions to improve stormwater and erosion control.
- The Port continued a public outreach campaign to prevent stormwater pollution at storm drains through the use of curb/pavement markers and posters. The colorful markers are installed at storm drains and catch basins as a reminder that polluted stormwater often drains directly to rivers, streams, and other aquatic habitats. The Port also distributed informational posters that provide tips for minimizing water pollution at storm drains and list phone numbers for reporting spills to the City of Portland, the Port's Environmental Hotline, and the PDX communications center.
- The Port was a co-sponsor for the December 2003 Oregon Sea Celebration presented by the Audubon Society of Portland and Portland State University. This conference covered environmental issues such as water quality and land/sea interactions.
- The Port co-sponsored the Columbia Slough Regatta, an annual family-oriented event that provides educational information about the Columbia Slough.
- As a member of the Columbia Slough Watershed Council (CSWC), the Port continued to implement the Columbia Slough Watershed Action Plan, which includes a comprehensive list of potential enhancement and restoration projects, water quality improvement projects, educational programs, and public recreation opportunities.
- The Port was one of eleven ports selected by the American Association of Port Authorities (AAPA) and the U.S. Environmental Protection Agency (EPA) to participate in a two-year Environmental Management System (EMS) project aimed at bringing ports together to share strategies for successful EMS implementation. The Port is proud to be a mentor to other ports pursuing EMS development.

- Marine staff conducted public outreach as part of its Riverbank Management Plan and Marine Terminals Master Plan (MTMP). Projects associated with these plans enlisted the public participation and included the following:
 - The Port, in cooperation with the City of Portland's Bureau of Environmental Services (BES) and Americorps, provided an education field trip for Portland Public School Students. Port and City staff visited classrooms to introduce students to the importance of native plants to healthy rivers, and students visited riverbank areas to collect litter and debris, plant native vegetation, and conduct water quality testing.
 - The Marine Department continued to contract with the Multnomah Youth Cooperative (MYC) to manage 1,500 feet of shoreline along West Hayden Island. MYC volunteers managed "green spaces" on the island, focusing on non-native vegetation removal, re-vegetation with native species, and site monitoring.
 - Marine staff continued to conduct workshops for the Native American Youth Association Summer School Program. Staff led students through a native plant identification exercise, habitat studies through Geographic Information System (GIS) mapping, and a Terminal 6 riverbank and facility tour.
- Environmental Affairs staff hosted a tour for a Siletz Tribe youth group to educate them about stormwater management improvements completed as part of the Toyota Redevelopment Project at Terminal 4.
- PDX environmental staff made presentations to the following groups on the Port's new deicing system, which reduces glycol discharges and resulting water quality impacts to the Columbia Slough:
 - The Columbia Slough Watershed Council;
 - Environmental managers from the Indianapolis Airport;
 - The Water Environment School through Clackamas Community College; and
 - The American Institute of Chemical Engineers.
- The Port maintains several mitigation sites through its Mitigation Management Program. These sites are designed to provide a number of wildlife and community benefits, including restoring wetland hydrological functions, controlling the spread of invasive weeds, and providing greenspaces in highly urbanized areas. During the 2003-2004 permit year, the Port utilized these mitigation sites to provide a number of educational and outreach opportunities for the public, including the following:
 - The Port hosted public site visits and conducted tours for community groups to illustrate the environmental benefits of the mitigation sites.
 - The Port provided mitigation site access to Portland State University students conducting environmental research for school projects.
 - The Port hosted a City of Portland Bureau of Environmental Services Naturescaping for Clean Rivers workshop at the Vanport Wetlands mitigation site.
 - The Port continued to make information about the mitigation sites available to the public through its web site (www.portofportland.com).

CHALLENGES AND SOLUTIONS

- Resource limitations make it difficult to fund the many grant requests the Port receives. After performing an evaluation of its current processes, the Port decided to discontinue its formal Grants Program. However, as has been done in the past, the Port will continue to consider requests to participate in events conducted by established organizations with a demonstrated record of achievement that are committed to working collaboratively with the Port on topics of mutual interest.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- Community Affairs staff will continue to publish the *Port Currents* and *Portside* newsletters.
- The Port will continue to remain active as a member of the CSWC and provide assistance in the implementation of the Columbia Slough Watershed Action Plan.
- Port staff will continue to install colorful markers at storm drains to encourage pollution prevention BMPs.
- The Port will continue, through its various programs and plans (e.g., Riverbank Management Program, Mitigation Management Program, Marine Terminals Master Plan 2020), to identify and provide opportunities for public awareness and education on the importance of water quality protection.

Port-PI2	Inform employees and tenants of new stormwater pollution control efforts and activities in each Port operating area. Provide guidance for implementing the programs, where applicable. Participate with the City of Portland and community groups in promoting educational programs that relate to Port operations.
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The Port continues to educate and inform staff and tenants on stormwater pollution control and water quality management. The Environmental Affairs Department and operating areas maintain copies of training agendas, lists of attendees, and presentation summaries.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port's Executive Director continued to support the Port's environmental programs by distributing Port-wide memorandums on environmental objectives.
- The Port created a mobile information booth to increase employee environmental awareness. This display highlighted employees' environmental stories and accomplishments, as well as provided employees with information on the Port's environmental programs and practices, including a question and answer brochure on stormwater.
- The Port provided three training sessions to construction inspectors, engineers, and aviation environmental staff on the Port's Required Environment Practices for Construction. The training sessions addressed practices aimed at preventing stormwater contact with equipment operations (e.g., vehicle servicing) that could potentially contribute contaminants if not properly managed. The completion of these training sessions fulfilled one the of Port's Environmental Targets for the 2003-04 fiscal year.
- The Port continued to offer staff and tenants a variety of additional training through seminars, educational meetings, information exchanges, and presentations. Subjects covered included the following:
 - South Shore Wellfield Wellhead Protection Program
 - Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) training annual refresher course, completed by Port staff with previous 24- and 40-hour training
 - Spill Prevention Control and Countermeasures (SPCC) Plan Review
 - PDX Stormwater Awareness Training—Review of BMPs, new deicing system overview, 1200-COLS permit requirements, and dewatering permit requirements
 - PDX Deicing/Anti-Icing Awareness Training—BMPs and spill prevention and response protocols
 - PDX Deicing/Anti-Icing System Operations and Maintenance Training (PDX Maintenance Department)
 - Construction Dewatering

- The Port's EMS
 - Asbestos and lead paint
- PDX created and distributed wallet-size cards (a.k.a. "green cards") with listed spill response procedures and contact phone numbers to staff responsible for emergency response. The Port also continued to distribute emergency response contact information via email. Emergency contact information is also posted on the first page of the Port telephone directory and can be accessed through the PortNet computer network.
- Environmental Affairs staff coordinated with DEQ and the U.S. Coast Guard to provide spill awareness training to the crew of *Dredge Oregon*.
- Port staff attended the following professional conferences and seminars during the 2003-2004 permit year:
 - Oregon Association of Clean Water Agencies (ORACWA) Stormwater Summit 2004
 - ORACWA Annual Conference 2003
 - Oregon Water Resources Department Oregon Water Law Conference
 - 2003 Northwest Environmental Conference and Tradeshow
 - Environmental Law Education Center (ELEC) Dredging 2004 Conference
 - ELEC Clean Water Conference
 - American Association of Airport Executives (AAAE) Environmental Conference
 - AAAE Deicing and Stormwater Conference
 - Government Institute's Environmental Boot Camp
 - Resource Planning Associates Stormwater Treatment Technology Seminar
 - City of Portland Stormwater Management Manual Training
- Port environmental staff continued to maintain and make available to employees and tenants copies of stormwater-related documents such as management plans, programs, procedures, and policies. Environmental Affairs staff and operating area managers relayed informational updates pertaining to stormwater management via email and through meetings. Environmental Affairs staff also distributed informational materials (e.g., brochures, pamphlets, reports) covering upcoming conferences, training seminars, and stormwater-related environmental issues.
- Port tenant coordinators in Aviation, Marine, and Property and Development Services continued to distribute information to tenants through the Tenant Management Program. The tenant coordinators develop best management practices, distribute technical information, and provide technical assistance to the tenants. Tenant Coordinators within each operating area selected appropriate outreach forums and encouraged tenant participation.

- Port staff from the various operating areas, departments, and divisions collaborated on the development of new Environmental Objectives and Targets for fiscal year 2004-2005. The objectives established for 2004-2005 included *Minimizing Impacts to Water Resources*, a category which includes the following specific targets:
 - Reduce the amount of treated timber chocks at Terminal 6 container yard by June 2005;
 - Complete water efficiency evaluations for three Port water systems by June 2005; and
 - Implement four water conservation measures from the *Water Conservation Plan for PIC* by June 2005.
- PDX staff worked with co-permittees to revise and update the maps and tenant lists of the PDX SWPCP. The updates to the SWPCP were submitted to DEQ in June 2003.
- The Port continued to require PDX industrial permit and deicing permit co-permittees (tenants) to attend Port-sponsored training events and co-permittee meetings, conduct employee education on the SWPCP and the Spill Response Plan, and submit to the Port documentation of permit compliance upon request.
- PDX staff hosted BMP Committee meetings with tenants every two months. A variety of water quality-related topics were covered in these meetings, including stormwater permit compliance, the PDX SWPCP, deicing system updates, SPCC rules, BMP revisions, the annual “Spring Cleanup”, and tips on appropriate stormwater collection practices.
- PDX staff developed and distributed a spill plan template and pertinent reference information (e.g., agency guidance for developing spill plans) to assist tenants with developing spill plans for their facilities.
- Property and Development Services continued to utilize its SWMP during the permit year. The SWMP provides general guidance to property managers and tenants at industrial properties on stormwater issues, including best management practices specifically tailored to common industrial operations and maintenance.
- Property and Development Services staff continued to use monthly departmental meetings to discuss progress made in controlling stormwater contaminants in the Port’s industrial parks.
- Property and Development Services staff presented a Power Point slide show on catch basin inspection and repair to the department’s Property Managers.
- Property and Development Services staff maintain spreadsheets of collected water sample data from mitigation sites. The spreadsheets are accessible to department staff.

CHALLENGES AND SOLUTIONS

- The Port must manage a considerable amount of stormwater-related information for its many properties. It can be a challenge to effectively distribute the pertinent information to employees and tenants. The Port will continue to improve employee access to environmental information that supports stormwater programs (data, procedures, maps, etc.), and staff will continue to receive orientation and training on the EMS and GIS systems, which are increasingly being used as tools to organize, present, and distribute information.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- Environmental and Marketing Communications staff will continue internal outreach efforts to encourage Port employees to incorporate environmental stewardship into daily business operations.
- The Port's Environmental Objectives and Targets will continue to serve as a quantitative way for the Port to mark its progress towards meeting its environmental goals, including the protection of water resources through appropriate stormwater management practices.
- The Port will continue to provide EMS "general awareness" training to new employees during employee orientation using a web-based training program.
- The Port will continue to include environmental stories in its publications (e.g., *Portside*, *Port Currents*) to increase environmental awareness throughout the organization.

Port-OM1	Evaluate and update stormwater maintenance practices that affect water quality at stormwater quality facilities.
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The Port's operating areas continue to develop, promote, and implement specific stormwater maintenance practices at Port and tenant facilities. Many of the maintenance practices are well established, consistently meeting the requirements of NPDES and other permits, including the following:

- NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
- NPDES Construction Dewatering Discharge Permit, No. 101588 (PDX)
- NPDES 1200-CA Stormwater Discharge Permit, No. 107018 (Port-wide)
- NPDES 1200-COLS Industrial Stormwater Discharge Permits, Nos. 107220 and 111492 (PDX and Terminal 6, respectively)
- NPDES 1200-Z Industrial Stormwater Discharge Permit, No. 103594 (Terminal 6)
- City of Portland Pretreatment Permit (PDX)

Operating area staff are responsible for evaluating practices at their respective facilities, and for updating site-specific SWPCPs or other environmental management plans as needed. The Environmental Affairs Department and the Port's MSWMP provide general guidance on stormwater management issues.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port continued to coordinate with the Multnomah County Drainage District (MCDD) through an intergovernmental agreement that covers the maintenance of ditches, pipes, and sumps within PIC and portions of PDX.
- The Port renewed its Construction Dewatering Permit for PDX/PIC (DEQ File No. 101588) during the 2003-2004 fiscal year. The new permit was signed in January 2004 and covers the period extending through December 2009.
- The Port initiated operation of a new deicing system at PDX in Fall 2003. The system is designed to reduce glycol discharges and associated water quality impacts to the Columbia Slough. PDX staff monitored and evaluated the effectiveness of the system throughout the deicing season, and developed operating protocols and quality assurance/quality control (QA/QC) measures to supplement the deicing system's Operations and Maintenance (O&M) Manual.
- The Port continued to develop and update a comprehensive collection of stormwater maps for its facilities to illustrate the location of stormwater infrastructure and controls (e.g., oil/water separators). As part of the effort to collect stormwater system information for all Port facilities, including properties operated by tenants, the Port continued to require tenants to submit electronic as-built drawings for all construction activities.

- Property Maintenance staff worked to clear vegetation around several outfalls and culverts during the permit year to provide better access for inspections and illicit discharge monitoring.
- Property and Development Services hired a contractor to inspect, clean, and repair as necessary, all catch basins located at the industrial parks, and to install catch basin inserts to prevent sediment/contaminants from entering the stormwater system.
- Property and Development Services continued its program of providing catch basin inserts to its tenants with stormwater discharges.
- Marine staff completed routine stormwater maintenance activities throughout the permit year. Activities included regular catch basin inspection and cleaning, oil/water separator maintenance, inlet filter maintenance and replacement, and facility sweeping.
- Marine staff tracked maintenance and environmental inspection activities through a computerized maintenance tracking system.
- Marine staff continued stormwater BMPs on leased Marine Terminal properties through the Marine Tenant Management Program. Pollution control practices outlined in the BMPs include the following:
 - Using “dry cleaning” techniques (e.g., sweeping) for outdoor surfaces cleaning;
 - Directing contaminated runoff to sanitary sewers instead of storm sewers;
 - Incorporating landscaped areas into facility design;
 - Stenciling storm drains with “Storm Drain – No Dumping” or similar warnings; and
 - Using lead-free, water-based paints when painting asphalt or other ground features.
- PDX continued to host its annual “Spring Cleanup” program at PDX by providing dumpsters for tenants’ scrap metals and other solid waste materials. The program was expanded during the permit term to include the PDX Cargo Center.
- The Port continued to provide a scrap metal recycling bin for tenant use at the Property Maintenance facility.
- PDX staff regularly performed the following routine maintenance practices:
 - Boom deployment, maintenance, and/or replacement;
 - Inlet filter installation, maintenance, and/or replacement;
 - Detention/quiescent pond cleaning;
 - Vegetative swale maintenance;
 - Oil/water separator maintenance;
 - Outfall maintenance;
 - Catch basin inspection and cleaning;

- Facility sweeping; and
- Preventative maintenance inspections of underground storage tanks (USTs), aboveground storage tanks (ASTs), and industrial activity areas.
- Property and Development Services staff continued to monitor the performance of wool-based catch basin inserts used at the industrial parks, and work with the manufacturer of these inserts to improve upon their design.
- Property and Development Services staff continued to identify and inventory “orphaned” stormwater system components (e.g., catch basins) at its industrial properties, and worked to add these features to a maintenance program.
- Property and Development Services staff managed landscaped areas within the Industrial Parks and Marine Terminals to provide stormwater quality improvements. Crews removed and disposed of vegetative debris, scrap metal, and miscellaneous garbage. They composted or chipped vegetative debris to create mulch, and disposed of metal and miscellaneous garbage at appropriate facilities.
- Property and Development Services staff continued contracts for parking lot sweeping at its industrial properties.

CHALLENGES AND SOLUTIONS

- The Port has many properties and tenant facilities at which stormwater system improvements frequently occur as part of other development projects. The Port’s Engineering Department maintains updated maps of stormwater systems for its properties by tracking Port-initiated improvements and requiring tenants to submit electronic as-built drawings for all construction projects.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The operation and maintenance of Port stormwater infrastructure will continue at present levels, unless concerns develop that warrant modifications to maintenance frequency.

Port-OM2	Evaluate operations and maintenance of Port roads and vehicle maneuvering areas to determine water quality impacts. Recommend procedures or practices to reduce the discharge of pollutants to the stormwater system.
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The Port operating area staff maintain the roads and pavement in their respective areas. Site-specific SWPCPs provide general guidance on stormwater issues pertaining to road maintenance. Road maintenance generally includes paving, patching, sweeping, deicing, surface repairs, and painting.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- Port staff ensured that facilities were swept on a regular basis. PDX crews swept the airfield and construction contractors swept paved construction sites daily; Marine crews (T-6) swept their facility annually; and Property and Development Services staff contracted with private service providers to have the industrial parks swept on a regular basis.
- Port maintenance crews and contractors placed swept materials in storage bins or stockpiled them to prevent contact with stormwater runoff. The Port appropriately profiled and disposed of these materials.
- Port staff (maintenance and environmental) continued to maintain sampling and disposal-tracking records.
- The Port recommended procedures and practices for reducing the discharge of pollutants to stormwater systems through its public outreach campaign of distributing curb/pavement markers and informational posters (See Port-PI1).
- The Port's new deicing system at PDX, which was designed to protect water quality by collecting deicing stormwater runoff and controlling discharge into receiving waters or the sanitary sewer, became operational in Fall 2003. PDX staff monitored and evaluated the system's performance throughout the deicing season, and developed operating protocols and QA/QC procedures to supplement to system's O&M Manual.
- Port environmental staff (PDX) continued to monitor and evaluate deicing activities with the assistance of consultants, co-permittees, the DEQ, and the City of Portland BES.
- The Port documented deicing BMPs in its annual report for PDX's Runoff Control Plan, which was submitted to the DEQ.

- The Port submitted the results of PDX's winter collection program in the *2003/2004 Annual Deicing/Anti-icing Management Report*, which was submitted to the DEQ.
- PDX continued its use of glycol recovery vehicles for glycol collection, thus reducing the potential for this material to combine with stormwater and ultimately enter receiving waters.
- PDX staff continued to use the Deicing and Anti-Icing Runoff Control Plan to set the strategy for controlling, collecting, and disposing of deicing and anti-icing materials.
- PDX Deicing Permit co-permittees carried out stormwater BMPs in their routine activities, including the use of forced-air deicing methods for aircraft, employment of a two step chemical application process for pavement deicers, varying aircraft deicing material mix ratios based on ambient temperatures (to be performed by the airlines), and conducting ongoing research on new deicing technologies.
- PDX environmental staff reviewed Port and tenant aviation construction projects for environmental issues, providing design input to ensure all appropriate environmental safeguards were implemented.
- At PDX, the Port hired a contractor to implement new, environmentally-sensitive measures for removing rubber from the runways. The new approach utilized a machine that contained and recycled the water used in the cleaning of the runway surface, eliminating surface water runoff from the process.
- The Port carried out routine pavement maintenance throughout the year, including surface repairs and painting. Crews continued to use specialized tools and techniques to properly handle waste and cleaning products. The Port maintains indoor storage areas, equipment wash-bays, debris unloading areas, and toluene recovery systems associated with its pavement maintenance operations.

CHALLENGES AND SOLUTIONS

- No unusual challenges presented themselves during the permit year with respect to the operations and maintenance of Port roads and vehicle maneuvering areas.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to maintain roadways and other pavement in ways that minimize water quality impacts from stormwater runoff.
- Port staff will continue to install colorful markers at storm drains and distribute outreach materials to encourage pollution prevention BMPs.

Port-OM3	Review landscape maintenance practices. Recommend the use of vegetation that reduces the need for pesticides, herbicides, fertilizers, and water, where practical.
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Property Maintenance staff are responsible for the landscaping and property maintenance of the Port's industrial parks, marine terminals, and mitigation sites. PDX staff handles landscaping and property maintenance at its facilities. Marine Facility Maintenance staff are responsible for maintaining the railyards, asphalt areas, and portions of the riverbank at Terminal 6. The Port often coordinates with the City to provide landscaping plans for natural resource enhancement projects on Port-owned property, such as areas within the Columbia Slough watershed.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port developed Pesticide, Herbicide, and Fertilizer Use Plans for property maintenance personnel and property managers. These Plans describe Port practices for using pesticides, herbicides, and fertilizers on Port property, and specifically document procedures aimed at minimizing the use of chemicals. The Plans include appendices that identify all chemical pesticides, herbicides, and fertilizers used by Property Maintenance personnel.
- The Port developed an Herbicide Use Plan for Marine Facility Maintenance personnel. This Plan describes Port practices and general principles governing herbicide use at the Port's marine terminals. The Plan includes an appendix that identifies all chemical herbicides used by Marine Facility Maintenance personnel.
- The Environmental Affairs Department developed a Technical Guidance Document for Pesticides, which provides reference information to Port staff who use or manage the use of pesticides on Port property. The completion of this document fulfilled one of the Port's water resources-related environmental targets for the 2003-2004 fiscal year.
- Port landscape maintenance staff continued to employ a program of integrated pest management (IPM), which provides the framework for all pesticide and fertilizer applications. The IPM program establishes a threshold of acceptable appearance, damage, infection, etc. for landscaped areas. Once that threshold has been crossed, corrective measures are taken using the least toxic, most effective methods/materials available.
- The Port initiated a pilot project with the Portland Water Bureau to evaluate a new irrigation control technology that conserves water by allowing landscape irrigation to be turned on only when it is needed.
- The Port continued to implement numerous BMPs that indirectly address pesticide/fertilizer usage (e.g., BMPs related to stormwater quality, chemical

- handling, etc.), and continued to specifically address pesticide/fertilizer management through the following BMPs:
- Port of Portland Property Development Tenant Program, BMP 005: Pesticide, Herbicide, and Fertilizer Management
 - Port of Portland Marine Tenant Program, BMP 018: Fumigation and Pesticide Management
- As documented in the Port's various written plans and BMPs relating to pesticide/fertilizer usage, Port maintenance staff continued to work to minimize the use of pesticides, fertilizers, and irrigation water in the course of its maintenance activities. Examples of measures employed and guidelines established to accomplish this included the following:
 - Adherence to manufacturer's instructions for storage, handling, and application of chemicals;
 - Following guidelines provided by agencies such as the U.S. Department of Agriculture (USDA), Oregon Department of Agriculture, Portland Parks and Recreation Department, and the Multnomah County Vector Control;
 - Proper disposal of pesticide containers, dead vermin and pests, and other related wastes;
 - Increased emphasis on manual and mechanical methods for weed removal;
 - Selection of herbicide products that are approved for aquatic use and with limited persistence in soil;
 - Selection of plants that are well-suited to site conditions with few pest problems;
 - Use of mulch and drip irrigation systems to conserve water and improve water retention;
 - No fertilizer use airside (inside the security fence) at PDX;
 - When appropriate, use of slow-release fertilizer products that minimize "application overages" and help prevent nitrate leaching into the groundwater;
 - Use of mycorrhizae (symbiotic fungi) to improve water uptake by plants;
 - Improvements in chemical application techniques:
 - Emphasis on spot-spraying as opposed to broadcast spraying
 - Use of small fertilizer spreaders at curbsides to reduce "over spray" and the potential for fertilizers entering stormwater systems
 - Planting (or replanting) of areas without groundcover, such as constructed areas where vegetation has not been established;
 - Mowing at critical times during the growing season to maximize native seed release and limit weed release;
 - Use of alternative mosquito control methods:
 - Provide bat houses to increase bat presence on sites
 - Improve habitat for dragonfly/damselfly species
 - Port staff continued to coordinate with state and local agencies on current vegetation management techniques, regulations, and environmental concerns.

- The Port continued to use native plant species for vegetating its riverbank areas. The Terminal 4 Toyota Redevelopment Project, for example, included the restoration of an approximately 1,700-foot stretch of riverbank to its native conditions. More than 11,000 native trees and shrubs were planted as part of the project.
- The PDX Wildlife Management Department established a list of acceptable native plants for use by PDX Maintenance at Portland International Airport.
- Port staff made efforts to improve native species diversity and establishment, especially along watercourses. Examples of such efforts include the following:
 - Planting robust native plants that require less irrigation and long-term care than non-natives;
 - Preferentially choosing bio-engineering methods for erosion control near streams and other sensitive areas;
 - Fencing out foraging animals from sensitive areas; and
 - Continuing a program (in cooperation with BES) to remove invasive species along riparian corridors.
- The Port continued to require chemical applicators to obtain and maintain licenses issued by the Oregon Department of Agriculture (ODA), which requires that pesticide applicators receive 40 hours of continuing education training per 5-year license term.
- PDX Maintenance staff continued to implement a number of landscape maintenance practices aimed at improving stormwater quality at the airport, including the following:
 - Maintaining the integrity and function of bioswales by keeping them full with healthy, mature vegetation;
 - Limiting the amount of turf and shrub fertilizer that falls on hard surfaces (e.g., sidewalks, roads, parking lots) by using small fertilizer spreaders, and blowing unintentional applications to these areas back onto the target areas; and
 - Using slow-release nitrogen fertilizers to limit leaching into groundwater and runoff into surface waters.
- Port staff continued to employ a variety of techniques to minimize chemical applications, including:
 - Biological controls;
 - Physical controls (e.g., mowing, burning, flooding, grazing);
 - Cultural selection (i.e., the selection of the proper plant species for the area); and
 - Field surveys to assess pest conditions and limit unnecessary chemical applications.
- Marine Facility Maintenance crews continued to be involved with riverbank enhancement projects, including plantings and general maintenance activities.
- Property and Development Services staff continued to maintain a database that tracks pesticide usage on all properties managed by the department.

- Property and Development Services staff provided guidance on planting plans for erosion control at construction sites, promoting the use of native herbaceous species that are fast germinators.

CHALLENGES AND SOLUTIONS

- Ongoing evaluation and development of Port landscape maintenance programs and practices has allowed many of the challenges associated with stormwater pollution from landscape maintenance to have been met. The Port continues to evaluate the performance of its landscape maintenance practices and identify potential improvements by conducting ongoing information reviews to stay current on the most environmentally responsible methods and techniques for pest control and irrigation.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to minimize its use of pesticides and fertilizers through existing programs.
- The Port will continue its participation with the Portland Water Bureau in a pilot project to evaluate a new irrigation technology that conserves water by allowing landscape irrigation to be turned on only when it is needed.
- The Port will continue to use environmentally sensitive landscape maintenance practices, such as using recycled organic materials for mulch and compost.

Port-IND1	Develop a program to reduce the discharge of pollutants to the stormwater system from existing and developing industries on Port property, particularly focused on those that are not already regulated by other NPDES requirements.
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The Port addresses pollutant discharges to its stormwater systems through lease agreements. These agreements cover substantive and procedural issues, such as property inspections, stormwater permits, BMPs, training of tenant personnel, and spill response requirements. Port Ordinance No. 361 also authorizes Port staff to inspect tenant facilities, restrict connections to the MS4, and impose penalties to known violators.

Additional agreements and contract provisions help control pollutant discharges to the Port's stormwater system. These include, but are not limited to, construction dewatering agreements, storage tank use agreements, right-of-entry permits, operating permits, and mobile fueling permits.

The Appendix includes lists of the tenants on Port-leased property with NPDES permit responsibilities.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port continued its Tenant Management Policy that allows for Port oversight of tenant operations. The procedures covered under the policy include the following topics:
 - Development and selection of standard environmental language for tenant agreements (e.g., leases, permits, right-of-entry, easements);
 - Educational outreach; and
 - Inspections and audits of tenant facilities.
- The Port continued to require new developments with proposed underground injection systems to meet the DEQ's Underground Injection Control (UIC) Program certification requirements.
- Marine staff continued to implement the Marine Tenant Program with several BMPs pertaining to stormwater, such as the following:
 - BMP012 — Underground Storage Tanks (UST) and Above Ground Storage Tanks (AST)—relates to requirements for proper handling and storage of materials; and
 - BMP017 — Building and Grounds Maintenance— covers proper pavement maintenance practices for stormwater protection.
- Marine staff continued to conduct regular inspections of Port-leased properties. The department inspects for environmental safety, facility maintenance, and engineering compliance.

- PDX environmental and maintenance staff worked together to remove the last known piece of polychlorinated biphenyl (PCB)-containing electrical equipment from the airport in late spring. This equipment, which consisted of a regulator for an airfield lighting system, was replaced with one that utilizes mineral oil for cooling and insulation rather than PCBs.
- PDX crews continued to operate a paint distillation machine to recover toluene from waste paint. During the 2003-2004 fiscal year, the machine recovered 390 gallons (3,120 pounds) of toluene from waste paint, which represents a 43% recovery rate.
- Property and Development Services continued to implement its Stormwater Management Plan.
- Property and Development Services staff continued the Mitigation Management Program, which included monitoring of sediment and water quality. Collected data help establish baseline conditions at mitigation sites.
- Property and Development Services staff continued to provide oversight of Port and tenant activities at industrial areas. This effort has led to an extensive collection of stormwater-related information, including a tally of regulatory permits and risk factors affecting stormwater pollution. This information is used to develop outreach goals and plan monitoring activities.

CHALLENGES AND SOLUTIONS

- The Port has hundreds of tenants that are on lease agreements that have been in effect for many years. Some of these tenants and their activities have not been well documented in the past. The Port, and in particular Property and Development Services, has made extensive efforts to review tenant operations and stormwater management practices. Additionally, all new tenants must have appropriate stormwater use language written into their leases.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port's operating areas will continue to monitor tenant activities under their jurisdiction to reduce the potential for stormwater pollution.
- The Port will continue to review new development project plans as needed to ensure adequate stormwater controls are installed, and to ensure that those control systems will be properly operated and maintained.
- The Port will continue to comply with the South Shore Wellfield Wellhead Protection Program requirements at its facilities, and will be available to provide technical assistance to its tenants within the groundwater protection boundary.

Port-ILL1	Review required spill response procedures in each operating area. Refine procedures as necessary, including improving interagency coordination.
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The Port has created the following documents that establish reporting protocols for spills, define roles and responsibilities, identify notification requirements, and address other general safety issues:

- Portland International Airport Spill Response Plan
- Portland International Airport Spill Prevention Control and Countermeasures (SPCC) Plan
- Portland International Airport Stormwater Pollution Control Plan
- Marine Terminal 6 Spill Response Plan
- Marine Terminal 6 Stormwater Pollution Control Plan
- Property and Development Services Stormwater Management Plan

Certain operating area industrial stormwater permits (1200-COLS and 1200-Z) require tenant spill response plans, and the Port uses lease agreements to ensure compliance. Tenants are required to prepare a plan, maintain on-site spill response kits, and provide proper training to employees.

Emergencies and spills on Aviation properties are reported directly to the PDX Communications Center; emergencies and spills on Marine properties are reported to the Marine Security Office; and for areas outside the boundaries of Aviation and Marine Terminals, the Port maintains a 24-hour Environmental Hotline as the principal means of reporting environmental emergencies. Hotline calls are routed to the appropriate contacts.

The Port continued to distribute emergency response contact information via email. Emergency contact information is also posted on the first page of the Port telephone directory and can be accessed through the PortNet computer network. PDX has issued wallet-size cards (a.k.a. "green cards") with listed spill response procedures and contact phone numbers to staff responsible for emergency response.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port continued to rely on emergency response plans in dealing with emergency situations at Port facilities. The plans establish roles and responsibilities within the organization for emergency/spill response and cover other important information, such as reporting procedures, "reportable quantities," agency and internal notification requirements, hazardous waste concerns, and general safety.
- Port staff encouraged tenants without spill prevention and response plans to develop them for their facilities. Lease agreements require tenants to comply with Port SWPCPs, including BMPs for spill prevention and response.

- The Port continued to incorporate into its construction specifications *Environmental Practices for Construction*, which include measures for spill prevention and response.
- The Port continued to implement its Stormwater Management Plan for Class V Underground Injection Systems, which addresses spill prevention and response.
- PDX staff continued BMPs for Port and tenant operations that, either directly or indirectly, pertain to spills. These include the following:
 - BMP #1—Spill Response
 - BMP #2—Hazardous Materials Storage and Use
 - BMP #3—Vehicle, Equipment, & Aircraft Washing
 - BMP #4—Aboveground Storage Tank Spill Prevention
 - BMP #5—Aircraft Deicing and Anti-icing Operations
 - BMP #6—Portable Glycol Above Ground Storage Tank Spill Prevention
 - BMP #7—Aircraft Sanitary Waste Disposal
 - BMP #8—Regulated Waste Identification and Disposal
 - BMP #9—Aircraft Fueling Operations
 - BMP #10—Underground Storage Tank Spill Prevention
- The Port remained an active member of the City's Spill Committee.
- Port staff updated the PDX SPCC in September 2003 to include new tank information for the PDX Port Maintenance facility and the Port Fire Department.
- PDX staff developed spill procedure cards which contain a bulleted list of spill response procedures. The cards were finalized in September 2003 and distributed to PDX environmental staff.
- Marine staff continued to participate in spill response programs through the Maritime Fire and Safety Association and the Clean Rivers Co-op.
- Aviation environmental and maintenance staff, Port spill response contractors, and PDX Aircraft Rescue and Firefighting participated in a spill response drill.

CHALLENGES AND SOLUTIONS

- Even with written plans in place and preventive measures employed, spills occasionally occur. The Port will continue to evaluate the effectiveness of its procedures and revise its spill control plans, as necessary, to further reduce the potential for spills. The Port will also continue to maintain rapid spill response capabilities to adequately address spills when they occur, and prevent the release of spilled materials to the stormwater system.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to develop its information resources to provide greater oversight of Port, tenant, and contractor operations.

Port-ILL2	Provide information to employees and tenants on where and how to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful materials.
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The Port regularly distributes information to employees and tenants on the proper disposal of hazardous materials. Staff and tenant meetings are the most common forums for training and information sharing. The Port hosts BMP Committee meetings or may contact tenant representatives directly, as necessary.

The Port provides specialized training on hazardous waste handling to staff. The Port's Risk Management group maintains a Port-wide inventory of hazardous materials used throughout Port-managed properties.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port completed a Technical Guidance Manual for Pesticides, which fulfilled one of its stated environmental targets for the 2003-2004 fiscal year. This document provides reference information to Port staff who use or manage the use of pesticides on Port property, and includes discussions of pesticide active ingredients, chemical compositions, fate/transport/persistence, and environmental effects.
- The Port distributed hazardous waste information and updates to operating area staff and tenants.
- Port environmental staff and maintenance crews worked together to ensure proper handling, storage, and disposal of Port hazardous wastes.
- The Port provided refresher course training to staff members with previous 24- and 40-Hour OSHA HAZWOPER training.
- Marine staff continued BMPs under its Tenant Program that address hazardous waste issues, including the following:
 - BMP012—Bulk Liquid Storage Tanks
 - BMP018—Fumigation and Pesticide Management
- PDX crews continued to receive training on the operation of a paint distillation machine, which is used to recover toluene from waste paint (see Port-IND1).
- Property and Development Services staff continued to implement and enforce BMPs under the Property and Development Services Stormwater Management Plan. These BMPs address topics that include vehicle washing and waste management.

CHALLENGES AND SOLUTIONS

- Outreach efforts and distributed information do not always effectively change behaviors relating to chemical materials handling and disposal. The Port maintains an interest in assessing how well its programs influence behavior, and actively seeks ways to improve its information distribution to most effectively control waste management.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to educate and provide information to employees and tenants on proper waste disposal through its existing approaches and programs.

Port-ILL3	Detect and control illicit connections and discharges to the stormwater system.
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The Port implements the IDDRP in each operating area. The procedures outlined in the IDDRP cover the following topics:

- Enforcement of Port Ordinance 361
- Dry season and wet season field monitoring
- Priority and schedule of major outfall inspections
- Discharge sampling, tracking, and elimination

The Port documents spill prevention and response procedures in the IDDRP, as required by 40 CFR 122.26 (d)(2)(iv)(B); however, each operating area maintains separate area-specific spill response procedures.

The Port originally based its “priority outfall” designations on the results of a 1996 study and previous inspections. Outfalls have since been added or removed from the priority listing as data supports the status change.

During dry season monitoring, if the inspector observes a discharge that is not a permissible discharge as outlined in 40 CFR 122.26 (d)(2)(iv)(B)(1), the inspector documents visual observations, investigative procedures are initiated, and water samples are collected for laboratory analysis, if needed, to aid in determining the source of the flow.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- Port staff inspected priority outfalls, updating and revising the listings as appropriate. Environmental staff compiled and reviewed inspection and monitoring data to assess the impacts of non-stormwater discharges.
- Port staff (Marine, PDX, and Property and Development Services) conducted dry and wet season outfall inspections, as well as regular preventative maintenance inspections. These efforts serve to identify illicit discharges, comply with NPDES industrial permit requirements, comply with other regulatory benchmarks, and to generally monitor stormwater management at the Port. Where tenant-owned systems were found to be deficient, Port staff informed the appropriate tenant representative of the needed improvements.

CHALLENGES AND SOLUTIONS

- Despite efforts to educate and inform tenants and employees about proper maintenance procedures and appropriate stormwater management, procedural issues occasionally arise. Port staff continue to work to implement and communicate BMPs (e.g., eliminate all wash water from entering the stormwater system) by providing

frequent reviews of pertinent information to employees and tenants responsible for maintenance tasks.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue with regular inspection of stormwater facilities.
- The Port will continue its efforts to control illicit connections and discharges to its stormwater facilities through its existing programs and will evaluate potential new programs.
- Operating area staff will continue to conduct dry and wet season monitoring and facilities inspections.
- The Port will continue to train employees and tenants to prevent illicit connections and discharges.

Port-ILL4	Reduce the potential for illegal dumping through active property management.
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The Port continues to develop programs to reduce illegal dumping and abandoned waste. Most illegal dumping occurs when tenants vacate Port-owned properties and abandon wastes in the process. Current property management procedures are generally effective at controlling the problem, though the occasional offense still occurs. Regular environmental audits and inspections of tenant operations under the Port's Environmental Tenant Management Policy is one effective tool for preventing violations.

Property and Development Services maintenance crews perform weekly "sweeps" of Port property and weekly garbage pick-ups. If trash is dumped on or near a mitigation site, the Port hires a contractor to remove it immediately. If a vehicle is abandoned on or near a site, the Port has it towed. If hazardous waste is found, Port staff coordinate with the City and other agencies, as appropriate, to properly isolate and dispose of the waste. Garbage dumped on properties not owned by the Port is reported to the City of Portland. Through an interagency agreement, the City of Portland is also responsible for removing illegally dumped materials found in public right-of-ways (roads).

The Port secures much of its property with fences and locked gates, limiting access to potential violators. In areas where public access must be maintained, the Port posts signs and warnings against illegal dumping.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port continued to conduct regular security checks at most sites and post signs against illegal dumping.
- The Port continued to use environmental contractors for the disposal of hazardous materials.
- PDX Ground Transportation Office staff continued to patrol the taxi hold parking areas for trash and illegal dumping.
- Property and Development Services and PDX maintenance crews maintained a rapid response and clean-up capability to reported violations.
- Property and Development Services staff continued to coordinate with staff from the Port's operating areas to investigate violations, search for abandoned waste, and identify responsible parties.

- The Port continued its “Spring Cleanup” for PDX tenants, offering appropriate waste disposal measures by providing dumpsters for tenants’ scrap metals and other solid waste materials. The program was expanded during the permit term to include the PDX Cargo Center.

CHALLENGES AND SOLUTIONS

- Even with the best procedures in place, illegal dumping may still occur. The Port will continue to be prompt in resolution of incidents and seek new preventive measures.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to manage illegal dumping with existing approaches and programs.

Port-ND1	Apply practical erosion and sediment controls to reduce pollutant discharges at construction sites on properties being developed by the Port.
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The Port incorporates erosion and sediment control BMPs in its many plans, policies, and programs. The Port maintains a Construction Stormwater Discharge NPDES 1200-CA permit, File No. 101018 (Port-wide), and tenants may be required to obtain 1200-C NPDES permits for individual construction projects. The Port's construction specifications include erosion control requirements that apply to all Port projects, regardless of size.

The Port's NPDES Construction Dewatering Discharge Permit, No. 101588 regulates the discharge of treated excavation wastewater at the PDX and PIC facilities to the storm sewer system.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port obtained a renewal of its NPDES Construction Dewatering Discharge Permit, No. 101588, for PDX/PIC. The new permit was signed in January 2004 and expires in December 2008.
- PDX environmental staff continued to implement the requirements of PDX's NPDES Construction Dewatering Discharge Permit. Permit requirements include the following:
 - Sampling and analysis;
 - Review of results;
 - Visual monitoring of discharge quality;
 - Treatment (if necessary); and
 - Reporting.
- The Port continued to implement erosion control specifications that reference the City of Portland's Erosion Control Manual.
- The Port continued to include Environmental Practices for Construction in its construction specifications. These specifications apply to all Port construction projects and address a variety of concerns, including erosion and sediment control.
- Port staff regularly addressed erosion control compliance issues during tenant meetings, pre-construction meetings, weekly construction meetings, and monthly site inspections.
- The Port's Marine Tenant Program includes "BMP011—Erosion Prevention and Sediment Control", which references both the City's Erosion Control Manual and the AAPA Environmental Management Handbook.

CHALLENGES AND SOLUTIONS

- Educating new contractors on the Port's required construction practices remains a challenge for Port staff. The Port continued to incorporate its Environmental Practices for Construction, which include stormwater controls, in the specifications for all construction projects. Major construction efforts that involve grading and earth movement are generally planned for dry periods, whenever possible, to reduce impact and the potential for violations. The Port also continues to seek effective ways of improving project administration and the management of contractor activities.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to manage new developments with existing approaches and programs.

Port-STR1	When warranted and appropriate based on available water quality monitoring data, develop procedures for construction, maintenance, and monitoring of water quality facilities.
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The Port updates and revises its procedures for construction, maintenance, and monitoring of water quality facilities on an as-needed basis. The Port frequently participates in, and contributes to, projects aimed at improving water quality within the Columbia Slough Basin, Columbia River, and Willamette River.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- Port staff continued to regularly monitor and inspect stormwater systems, as required by NPDES permits or as needed.
- The Port's new deicing system at PDX, which was designed to protect water quality by collecting deicing stormwater runoff and controlling its discharge into receiving waters or the sanitary sewer, became operational in Fall 2003. PDX staff monitored and evaluated the system's performance throughout the deicing season, and developed operating protocols and QA/QC procedures to supplement the system's O&M Manual.
- Property and Development Services staff continued to install and monitor the performance of wool-based catch basin inserts used at the industrial parks, and work with the manufacturer of these inserts to improve upon their design.
- PDX staff cleaned Drainage Basin 6 quiescent and detention ponds.
- Property and Development Services staff continued to supplement basin surveys and dry season inspections with photo documentation.

CHALLENGES AND SOLUTIONS

- There are many ways to provide treatment for stormwater. An ongoing challenge is to select the best approach or appropriate technology for a specific application. The Port continues to evaluate the effectiveness of its stormwater treatments and seek ways to improve its approaches to stormwater management. The Port also stays current on the latest in stormwater treatment technologies by conducting information reviews and attending related seminars.
- Structural methods of treating stormwater containing dilute concentrations of pollutants have generally not been as effective as reported by manufacturer's literature. These structural controls appear to work best in areas with higher concentrations of pollutants, such as construction sites where stormwater runoff may

contain sediments. Source control continues to provide the best opportunity to control dispersed and dilute sources of stormwater pollution. The Port continues to advance its programs/procedures/practices for minimizing stormwater pollution from its various potential sources.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- The Port will continue to manage water quality facilities with existing approaches and programs.

Port-OA1	Coordinate with applicable agencies working on regulatory aspects of water quality protection, including watershed management, combined sewer overflows, solid waste and recycling, and industrial waste and source control. Cooperate with agencies to implement new source or non-point source control practices where water quality data indicate the need for stormwater quality improvement.
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The Port dedicates extensive staff time and resources towards coordination with agencies and organizations that also work on water quality issues. The Port's environmental staff regularly attend public meetings, hearings, and other forums that cover stormwater regulations and new technologies. Port staff are also active members of workgroups and advisory committees.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port was a participant in a technical working group that created the City of Portland's Columbia South Shore Wellfield Wellhead Protection Reference Manual. An ordinance was adopted by the City in July 2003 that protects the City's emergency water source by requiring businesses to implement stormwater BMPs based on use of chemicals and quantities above a defined limit. The Port's tenants were invited to participate in the City's Bureau of Water Works technical assistance program with help from the Columbia Corridor Association, of which the Port is a member.
- The Port continued to develop its EMS, which integrates agency coordination on environmental issues. The EMS also promotes consistency among stormwater management policies, programs, and plans.
- The Port continued to coordinate with the Multnomah County Drainage District through two IGAs; one for the operation of the PDX deicing system and one for the maintenance of ditches, pipes, and sumps within PIC and portions of PDX.
- As a member of the CSWC, the Port is an active member in the Action Plan Implementation Committee. This committee reviews new priority projects and seeks funding to implement watershed restoration projects.
- The Port remained actively involved with a variety of groups and organizations with projects aimed at improving source and non-point source control practices. Groups and programs include the following:
 - CSWC
 - ORACWA
 - BES Revegetation Program
 - Urban Ecosystem Research Consortium
 - Stakeholder Forum on Federal Wetlands Mitigation
 - Mosquito Control Stakeholders Group
 - Willamette Restoration Initiative

- City of Portland's River Renaissance
 - City of Portland Watershed Science Advisory Group
 - City of Portland's South Shore Wellfield Wellhead Protection Program
- The Port continued to coordinate with a variety of public agencies on stormwater-related projects and programs. These agencies included the following:
 - USACE
 - Oregon DSL
 - Oregon DEQ
 - MCDD
 - Multnomah County Vector Control
 - City of Portland BES
 - Tri-met
 - Metro
 - City of Portland Water Bureau
- PDX facilities staff expanded the existing pre-consumer food waste program to include the collection of coffee grounds, further reducing the amount of PDX waste going to landfills. The pre-consumer food waste from PDX goes to Nature's Needs where it is composted.

CHALLENGES AND SOLUTIONS

- A common challenge among agencies is addressing the multiple environmental initiatives (regulations, plans, programs etc.) from a watershed-scale perspective. It can be difficult to meet the needs of multi-jurisdictional (federal, state, local) programs and regulations, while also integrating them into a broader watershed context. The Port participates in various committees, councils, and groups, and strives to coordinate its stormwater management efforts with those of others to adequately address the broad range of concerns that exist.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- As the South Shore Wellfield Wellhead Protection Program is implemented, the Port will continue to provide programmatic review and technical assistance to Port tenants.
- The Port will continue to actively coordinate its stormwater management efforts with the efforts of others through active participation in appropriate groups and committees.
- The Port will continue to work with DEQ and municipalities to address TMDLs in the Municipal Permit Programs.

- The Port will continue its active membership with the CSWC to assist with implementing its Watershed Action Plan.
- PDX is expanding its recycling program by implementing a commingling program in an attempt to increase the volume of recycled material being collected.

Port-OA2	Promulgate policy and practices to address stormwater pollution issues on all Port property.
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In February 2000, the Port of Portland Commission adopted the Port's Environmental Policy:

"The Port of Portland will achieve its mission through responsible environmental stewardship and proactive environmental programs. The Port will integrate environmental considerations into all aspects of its strategic planning and business decision-making."

This general policy is promulgated by the Environmental Affairs Department and sets the stage for the Port's many environmental programs. The Port's Environmental Policy, along with more specific policies and procedures (e.g., Environmental Water Resources Policy and related procedures) are made available to Port staff through the Port's EMS. Other plans and programs, which also address stormwater pollution issues, remain in effect, including the Tenant Management Program, the Natural Resource Assessment and Management Plan (NRAMP), and the Riverbank Management Program.

Environmental staff monitor compliance with stormwater regulations and support efforts to meet the Port's Environmental Objectives and Targets. Environmental staff provide guidance to operating area staff on the development, refinement, and implementation of environmental policies, procedures, and practices.

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- Property and Development Services staff continued to implement the department's Stormwater Management Plan.
- The Port completed its MTMP 2020, which integrates environmental considerations into marine facility planning. The MTMP 2020 includes a detailed assessment of environmental conditions at the Port's marine terminals and identifies aspects and impacts of the Port's marine activities. The Environmental Action Plan developed in conjunction with the MTMP 2020 identifies targets and planning principles to be considered in future development, including minimizing impacts to water resources.
- The Port continued to include the Environmental Practices for Construction in its construction specifications. These specifications are applicable to all Port construction projects and include measures for hazardous material containment, equipment fueling and servicing, spill prevention and response, and vehicle maintenance.
- As part of the Marine Riverbank Management Program, the Port continued to use native plant species for vegetating its riverbank areas. The Terminal 4 Toyota Redevelopment Project, for example, included the restoration of an approximately 1,700-foot stretch of riverbank to its native conditions.

- The Port continued to implement the Stormwater Management Plan for Class V Underground Injection Systems. Port staff has inventoried, assessed, and registered all known underground injection systems on Port property. Class V injection systems include stormwater drywells, infiltration trenches, and similar systems that do not drain to open surface water.
- The Port continued to update and improve its GIS data to include stormwater facilities and land-use information. Through its GIS system, the Port has developed maps for planning and evaluating stormwater issues and policies.
- The Port continued to develop the NRAMP database to include spatial and temporal data for Port properties. The NRAMP identifies sensitive resource areas and strategies for impact avoidance, minimization, mitigation, and project design. For example, the NRAMP is used for such purposes as identifying wetland resources and invasive species, and for assessing Metro's Goal 5 implications. Information in the NRAMP is stored in a Port GIS database.
- The Port continued to develop and implement its EMS, which integrates the Port's environmental policy into planning for and operating its business. The following list represents significant elements of the EMS that were continued through the permit year.
 - Environmental Procedures—The Port continued to develop, refine, and implement environmental procedures that describe how to carry out policies and programs and manage environmental permits.
 - Environmental Objectives and Targets—The Port established and reported progress on its 2003-2004 environmental objectives and targets in the Port's Environmental Annual Report. During the 2004-2005 objectives and targets setting process, the Port made it a goal to improve integration and linkage with the Port's business plans.
 - EMS Management Review—The Port conducted an EMS Management Review to assess the suitability, adequacy and effectiveness of the Port's EMS. Included in this review were the Port's environmental policy and practices.
 - EMS Training and Communication—The Port provided EMS "general awareness" training to new employees during employee orientation and published environmental stories quarterly to increase environmental awareness throughout the organization.
 - EMS Outreach – The Port continues to be recognized as a leader for its EMS, and was one of eleven ports selected by the AAPA and the EPA to participate in a two-year EMS project aimed at bringing ports together to share strategies for

successful EMS implementation. The Port is proud to be a mentor to other ports pursuing EMS development.

- Environmental Water Resources Policy—The Port worked to improve consistency in BMP development, documentation, interpretation, implementation, and evaluation through new written procedures.
- Environmental Planning Policy—The Port improved upon its written procedures for environmental permits. The procedures help ensure consistency in permit acquisition, amendment, maintenance, renewal, expiration, termination, and transfer.
- The Port continued to manage tenants through the Tenant Management Program in a manner that protects the Port's assets and environmental resources. The program covers the following topics:
 - Coordination of tenant environmental management activities;
 - Development and selection of standard environmental language for tenant agreements (e.g., leases, permits, right-of-entry, easements);
 - Tenant communications and education; and
 - Implementation of inspections and audits of tenant facilities.
- The Port continued to use Tenant Coordinators to disseminate information to tenants. Tenant coordinators select the appropriate forums for information sharing between the Port and tenants. A group of coordinators met regularly to discuss environmental issues. Accomplishments over the past year include the continuation of the following:
 - Stormwater BMPs for tenants; and
 - Completed assessment and inventory of Properties' stormwater systems in the Port's industrial parks, including number of catch basins and stormwater treatment methods.
- Both PDX and Marine staff continued to implement their SWPCPs. Marine's SWPCP covers both a 1200-Z permit (Columbia River) and 1200-COLS permit (Columbia Slough), while PDX's SWPCP covers a 1200-COLS for industrial stormwater outfalls.
- The Port continued to implement the Riverbank Management Plan (initiated in 1998), which provides the basis for planning, maintenance and construction decisions along the riverbanks at Marine Terminals. The plan calls for ongoing surveying, monitoring, and BMP implementation.
- The Port provided storm drain markers and informational posters to tenants.
- The Port continued to implement its Mitigation Management Program. Mitigation sites are designed to provide a number of wildlife and community benefits, and are

based upon adaptive management techniques. The Plan includes detailed maintenance and monitoring schedules.

CHALLENGES AND SOLUTIONS

- The diversity of the Port's properties and activities makes establishing Port-wide policies and coordinating practices related to stormwater a challenge. The Port continues to strive to coordinate its many stormwater management efforts and responsibilities associated with its multiple stormwater-related permits. Internal work groups like the Water Resources Coordination Group, which consists of environmental staff from the corporate office and operating areas, help the Port maintain quality and consistency in its stormwater management efforts.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- Port staff from the various operating areas, departments, and divisions collaborated on the development of new Environmental Objectives and Targets for the 2004-2005 fiscal year. The objectives established for 2004-2005 included "Minimizing Impacts to Water Resources", a category that includes the following specific targets:
 - Reduce the amount of treated timber chocks at the Terminal 6 container yard by June 2005;
 - Complete water efficiency evaluations for three Port water systems by June 2005;
 - Implement four water conservation measures from the *Water Conservation Plan for PIC* by June 2005.
- The Port will continue to use its Environmental Aspects/Impacts Analysis to focus its environmental efforts in areas that have the greatest potential or actual impact on the environment.
- The Port will continue to work towards documenting and implementing EMS elements.
- The Port will continue to develop its Environmental Database Management System to provide a uniform data management tool for decision making, goal setting and compliance monitoring.
- The Port will continue to provide EMS "general awareness" training to new employees during employee orientation, as well as publish environmental stories quarterly to increase environmental awareness throughout the organization.

Port-OA3	Monitor stormwater to characterize typical discharges to the Port's municipal system.
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As stated in Section 4.0, the Port collects and submits monitoring data to DEQ for the NPDES stormwater permits listed below. This data is not included in the Municipal Permit Annual Report. However, additional information regarding the monitoring data collected for these permits is available through the Port or DEQ upon request.

- NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
- NPDES Construction Dewatering Discharge Permit, No. 101588 (PDX)
- NPDES 1200-CA Stormwater Discharge Permit, No. 107108 (Port-wide)
- NPDES 1200-COLS Industrial Discharge Permits, Nos. 107220 and 111492 (PDX and Terminal 6, respectively)
- NPDES 1200-Z Industrial Discharge Permit, No. 103594 (Terminal 6)

KEY ACCOMPLISHMENTS, PERMIT YEAR NINE (FY 03-04)

- The Port performed industrial permit compliance monitoring, dry season inspection monitoring, and site-specific monitoring of wetland mitigation sites during the permit year. The Port also continued to provide financial support to the City for performing land use characterization monitoring, as required by the Municipal Permit.
- The Port completed a pollutant baseload study for PDX to estimate existing pollutant loads and concentrations in PDX stormwater. The pollutant loads were determined through the modeling of annual stormwater runoff rates, considering published pollutant loading concentrations for different land uses, and accounting for published BMP reduction factors for BMPs used at PDX. The purpose of completing the baseline study was to allow cumulative impacts to be assessed and provide a means for the Port to determine if there are ways to avoid stormwater impacts prior to implementing construction projects.
- Port staff collected industrial stormwater samples from representative outfalls at PDX and Marine Terminals in accordance with respective industrial stormwater permit requirements. The samples collected represent water quality of runoff from a wide range of industrial, commercial, and transportation activities.
- The Port purchased database software for tracking Port-wide environmental monitoring data. The first phase of the new system's implementation, which involves tracking water quality data for NPDES permits, was initiated in March 2004.
- The Port continued to coordinate with its contracted analytical laboratories to obtain data in electronic format, and continued to utilize spreadsheets to analyze data trends from year to year.

- Port staff monitored several mitigation sites during the 2003-2004 permit year for sediment and water quality through its Mitigation Management Program. Water quality monitoring was performed for various parameters (e.g., PAHs, heavy metals, coliform bacteria, and nutrients) at the following wetland mitigation sites:
 - Vanport
 - T5 powerline
 - Randall

CHALLENGES AND SOLUTIONS

- The Port collects a large amount of stormwater data through its various programs and across its different operating areas. Managing this data in a consistent format that serves the purposes of the various programs and meets the needs of each of the operating areas is challenging. The Port continues to develop its Port-wide database for tracking environmental data, and improve its capabilities to analyze data trends from year to year.
- The establishment of “background levels” for certain parameters continues to be a difficult task. The complexity of interactions, the number of interdependent variables, and temporal and spatial variability limit an investigator’s ability to quantify impacts resulting from an individual activity. The Port will continue to seek better ways of establishing background levels for monitoring parameters and for evaluating potential impacts from its activities.

PROJECTED MAJOR ACCOMPLISHMENTS FOR NEXT PERMIT YEAR

- Operating area staff will continue to collect stormwater monitoring data consistent with requirements of the Port’s NPDES stormwater permits.
- The Port will continue to provide financial support to the City of Portland for its land use stormwater monitoring and characterization work, according to the intergovernmental agreement.

GLOSSARY OF ABBREVIATIONS

AAAE	American Association of Airport Executives
AAPA	American Association of Port Authorities
AST	Aboveground Storage Tank
BES	Bureau of Environmental Services
BMP	Best Management Practice
BOD ₅	Biochemical Oxygen Demand
CFR	Code of Federal Regulations
CSWC	Columbia Slough Watershed Council
DEQ	Oregon Department of Environmental Quality
DO	Dissolved Oxygen
ELEC	Environmental Law Education Center
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
GIS	Geographic Information System
HAZWOPER	Hazardous Waste Operations and Emergency Response
IDDRP	Illicit Discharge Detection and Removal Program
IGA	Intergovernmental Agreement
IPM	Integrated Pest Management
MS4	Municipal Separate Storm Sewer System
MSWMP	Municipal Stormwater Management Plan
MCDD	Multnomah County Drainage District
MTMP	Marine Terminals Master Plan
MYC	Multnomah Youth Cooperative
NPDES	National Pollutant Discharge Elimination System
NRAMP	Natural Resource Assessment and Management Plan
O&M	Operations and Maintenance
ODA	Oregon Department of Agriculture
ORACWA	Oregon Association of Clean Water Agencies
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PIC	Portland International Center
QA/QC	Quality Assurance/Quality Control
SPCC	Spill Prevention Control and Countermeasures
SWMP	Stormwater Management Plan
SWPCP	Stormwater Pollution Control Plan
TMDL	Total Maximum Daily Load
TSS	total suspended solids
UIC	Underground Injection Control
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
UST	Underground Storage Tank
WPCF	Water Pollution Control Facility
WRCG	Water Resources Coordination Group

APPENDIX

PORT OF PORTLAND TENANT NPDES PERMITS

Portland International Airport NPDES 1200-COLS Co-Applicants

Port of Portland
533 MA L.L.C
Air China Cargo
Airborne Express (ABX Air, Inc. and Airborne Express, Inc.)
Aircraft Services International Group
Airport Terminal Services, Inc.
Alaska Airlines, Inc.
Allegiant Air, Inc.
AMC Hangar at PDX
America West Airlines
American Airlines, Inc.
Ameriflight, Inc.
Aviation Exteriors Portland, Inc.
Avis Rent-A-Car Systems Inc.
BAX Global, Inc.
Bonneville Power Administration
Budget Rent-A-Car Systems Inc.
Columbia Forest Products Aviation, Inc.
Continental Airlines, Inc.
Delta Air Lines, Inc.
Dollar Rent-A-Car
Empire Airlines, Inc.
Enterprise Rent-A-Car
Evergreen Aviation Ground Logistics Enterprises
Federal Express Corporation
Flightcraft, Inc.
Frontier Airlines, Inc.
Hawaiian Airlines, Inc
Horizon Air Industries, Inc.
Jazz Air, Inc.
Kitty Hawk Aircargo, Inc.
LSG/Sky Chefs
Lufthansa German Airlines
Menlo Forwarding (formerly Emery Worldwide)
Mesa Airlines, Inc.
Mexicana De Aviacion S.A. De C.V.
National Car Rental Systems Inc.
Northwest Airlines
Ogden Ground Services, Inc.
PacifiCorp Trans, Inc.
Portland Fueling Facilities Corporation
Estacada Lumber
SkyWest Airlines
Southwest Airlines Co.
MN Airlines, LLC d/b/a Sun Country Airlines
DynAir CFE Services, Inc. a Swissport Company
The Hertz Corporation
United Airlines
United Parcel Service
United States Postal Service

Properties and Development Services NPDES Permitted Tenant List 2004

Swan Island NPDES Permitted Tenants

Tenant	Permit
Active Transport Corp.	NPDES 1200-Z
AGG	NPDES 1200-Z
Becker Trucking	NPDES 1200-Z
Cascade General	NPDES 1200-Z
DSU Peterbuilt	NPDES 1200-Z
Federal Express Corp.	NPDES 1200-Z
FedEx Ground Package System	NPDES 1200-Z
Fred Meyer Dairy/Kroger	NPDES 1200-Z
Freightliner LLC	NPDES 1200-Z
Freightliner Parts Plant	NPDES 1200-Z
Freightliner PDI Center	NPDES 1200-Z
GI Trucking	NPDES 1200-Z
Maletis Beverage	NPDES 1200-Z
Patterson Ranch/SAIA	NPDES 1200-Z
Roadway Express	NPDES 1200-Z
Rose City Transfer (CSI Crown)	NPDES 1200-Z
Savage Transload System	NPDES 1200-Z
UPS	NPDES 1200-Z
Oregon Transfer	NPDES 100-J
Freightliner LLC	NPDES 100-J
DSU Peterbuilt	NPDES 100-J

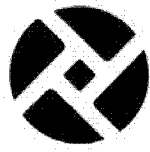
Rivergate NPDES Permitted Tenants

Tenant	NPDES 1200-COLS
Oregon Steel Mills	NPDES 1200-Z
JR Simplot	NPDES 1200-Z
Consolidated Metco	NPDES 1200-Z
Steinfeld's	NPDES 1200-Z
Helser Services, Inc.	NPDES 1200-COLS
Kanto Corp.	NPDES 1200-COLS
Oregon Steel	NPDES 1200-COLS
Beall Transliner	NPDES 1200-COLS
Land 'O Lakes	NPDES 1200-COLS
Ajinomoto	NPDES 1200-COLS
Helser Terminal	NPDES 1200-COLS
Oregon Metal Slitters	NPDES 1200-COLS
Rodda Paint	NPDES 1200-COLS
Pizza Blends	NPDES 1200-COLS
Fisher Mills	NPDES 1200-COLS
JR Simplot	NPDES 100-J

Portland International Center NPDES Permitted Tenants

Tenant	Permit
Yoshida Foods	NPDES 1200-COLS
Pizza Blends	NPDES 1200-COLS

Section IV
PORT OF PORTLAND



PORT OF PORTLAND

National Pollutant Discharge Elimination System (NPDES)

Municipal Separate Storm Sewer System Permit

Permit Number 101314

ANNUAL REPORT NO. TEN

Fiscal Year 2004-2005

(July 1, 2004 – June 30, 2005)

Prepared for:

Oregon Department of Environmental Quality

October 29, 2005

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APPENDIX

PORT OF PORTLAND TENANTS WITH NPDES PERMITS

1.0 INTRODUCTION

The Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from Port property through the Municipal Separate Storm Sewer System (MS4) Discharge Permit No. 101314 and other National Pollutant Discharge Elimination System (NPDES) stormwater permits, including the 1200-Z, 1200-COLS and 1200-CA permits. This annual report describes activities specifically related to implementation of the Port's MS4 Permit.

The Port and Multnomah County are co-permittees on the City of Portland's MS4 Permit. As required under Schedule B(2)(a) of the MS4 Permit, co-permittees must submit an annual report each year, summarizing accomplishments and implementation of the Municipal Stormwater Management Plan (SWMP).

This annual report documents activities from July 1, 2004 to June 30, 2005 related to the Port's stormwater management efforts under the MS4 Permit and SWMP. Each section of the report, with the exception of Sections 2.0 and 3.0, corresponds to the specific permit requirements in Schedule B(2)(a). The report emphasizes efforts and activities associated with individual Best Management Practices (BMPs) from the Port's SWMP (summarized in Section 8.0).

2.0 SUMMARY OF PORT OF PORTLAND PROPERTIES

The Port owns approximately 6,274 acres within the City of Portland (City) Urban Services Boundary. The Port-owned property includes Portland International Airport (PDX), four marine terminals, various industrial parks, and a number of undeveloped properties, such as wetland mitigation sites and part of West Hayden Island.

The MS4 Permit regulates the Port's municipal separate storm sewer system that serves Port property located within the City Urban Services Boundary. Property owned by the Port is primarily zoned for commercial and industrial use. Many of these areas have regulated industrial activities that also require industrial stormwater permits; these permitted areas overlap with the MS4 Permit. Much of the Port's property is leased to tenants many of which also hold industrial stormwater permits. For tenants that have industrial stormwater permits, the City of Portland oversees their stormwater related activities, and the ability of the Port to conduct stormwater management activities on these specific areas is limited. The following section describes stormwater management for the Port operating areas and undeveloped areas.

2.1 Portland International Airport

PDX comprises an area of approximately 3,200 acres and is located in northeast Portland between the Columbia River and the Columbia Slough. The facility is owned and operated by the Port, and it serves numerous aviation-related tenants. Stormwater runoff from the PDX property discharges into the Columbia Slough through a series of nine major outfalls authorized under the NPDES General 1200-COLS Industrial Stormwater Discharge Permit. This 1200-COLS permit is specifically structured to address Columbia Slough Total Maximum Daily Load (TMDL) parameters, including dissolved oxygen (DO), pH, nutrients, bacteria, and toxics. With the exception of the Oregon Air National Guard, which has its own 1200-COLS Permit, PDX tenants whose operations require stormwater permits are co-permittees with the Port under the PDX 1200-COLS Permit. BMPs conducted to meet the requirements of the 1200-COLS Permit also address the requirements under the Port's MS4 Permit. Therefore, stormwater management activities conducted at PDX to comply with the 1200-COLS Permit are organized and reported in this annual report under the relevant MS4 BMP categories. BMPs related to maintenance of public streets, illicit discharge detection and elimination and minimization of impacts from pesticide and fertilizer use are not required for the 1200-COLS Permit but are required to be addressed under the MS4 permit; therefore, these BMPs are addressed for PDX in the SWMP and reported in this annual report under the relevant MS4 BMP categories.

PDX also holds a NPDES Construction Dewatering Waste Discharge Permit, a City of Portland Pretreatment Permit, a Water Pollution Control Facility (WPCF) 1700-B Wastewater Permit, and a NPDES Anti-icing/Deicing Waste Discharge Permit. All tenants at PDX who conduct deicing activities are required to be co-permittees under the Anti-icing/Deicing Permit, or must obtain their own permit.

2.2 Marine Terminals

The Marine Terminals operating area consists of four active shipping terminals that are managed by the Port's Marine Department. The terminals collectively occupy approximately 1,000 acres along the Willamette (Terminals 2, 4, and 5) and Columbia (Terminal 6) rivers. These areas handle the shipping, receiving, and temporary storage of finished goods, agricultural products, and raw materials. The Port previously owned and operated Terminal 1 (Willamette River), managing it as an industrial property following its closure as a public marine cargo facility in 1989. The Port completed the sale of Terminal 1 in February 2004.

Because Terminal 6 discharges into two separately regulated water bodies, the Columbia River and the Columbia Slough, the Port holds both a 1200-Z (Columbia River) and 1200-COLS (Columbia Slough) NPDES permit for Terminal 6. As with PDX, BMPs conducted to meet the requirements of the 1200-Z or 1200-COLS permits also meet most of the requirements under the Port's MS4 Permit. Therefore, stormwater management activities at Terminal 6 to comply with the 1200-COLS and 1200-Z permits, and addressed in the associated SWPCP, are organized and reported in this annual report under the relevant MS4 BMP categories. BMPs related to maintenance of public streets, illicit discharge detection and elimination and minimization of impacts from pesticide and fertilizer use are not required for the 1200-Z or 1200-COLS permits but are required to be addressed under the MS4 Permit; therefore, these BMPs are addressed for Terminal 6 in the SWMP and reported in this annual report under the relevant MS4 BMP categories.

The majority of properties located at Terminals 2, 4 and 5 are leased to various tenants some of whom hold their own 1200-Z Permits. For those facilities not holding 1200-Z Permits, the Port's MS4 Permit serves as the regulatory guidelines for stormwater management activities.

2.3 Industrial Parks

The Port's Property and Development Services Department manages Port-owned industrial parks, including those at Swan Island, Port Center, Mocks Landing, Rivergate, and Portland International Center (PIC), totaling approximately 3,150 acres. The Port leases approximately 80% of its industrial park property to private commercial operators. These tenants are regulated by the City of Portland and some also hold industrial discharge NPDES permits (1200-COLS or 1200-Z permits) that are issued by DEQ and administered by the City. For these tenants, the Port has limited authority to control stormwater management activities. For Port owned and managed properties throughout the Port's industrial parks, the Port is directly responsible for ensuring these areas are in compliance with its MS4 Permit.

2.4 Undeveloped Properties

The Port's Property and Development Services Department manages approximately 900 acres of undeveloped property within the Urban Services Boundary. Stormwater management for the undeveloped properties that discharge into the Port's municipal separate storm sewer system is conducted under the Port's MS4 Permit.

3.0 ORGANIZATIONAL STRUCTURE AND COMMITMENT

The Port's Environmental Affairs Department is responsible for administering the MS4 Permit and the SWMP. Environmental staff from each operating area are responsible for implementing Port environmental programs to ensure permit compliance. As a means of coordinating Port-wide programs and policies, Environmental Affairs Program Managers regularly meet with Port operating area staff.

One means of coordination between Environmental Affairs and the three operating areas is the Water Resources Coordination Group (WRCG). The WRCG includes environmental staff from the corporate office, operating areas, and engineering. This group meets monthly and is responsible for coordination on Port-wide stormwater policy issues, permit matters, training, and communication. The Environmental Affairs Water Resources Program Manager (also the MS4 Permit Manager) serves as the lead for the WRCG.

Operating areas with NPDES Industrial Stormwater Discharge Permits are required to prepare and maintain Stormwater Pollution Control Plans (SWPCPs) for their facilities. Port staff at PDX prepares and updates the SWPCP in conjunction with any co-permittees, and Marine staff prepares and updates the SWPCP for Terminals 2 and 6. Tenants with Industrial Stormwater Discharge Permits are also required to prepare and maintain SWPCPs, but the Port does not oversee those efforts as the City of Portland (DEQ's agent) coordinates directly with each 1200-series permit holder in the Port of Portland service area.

4.0 STORMWATER MONITORING DATA

The Port's Stormwater Monitoring Program, submitted to DEQ in 1998, defines the Port's approach to meeting the MS4 Permit monitoring requirements. Through an Intergovernmental Agreement (IGA), the Port shares costs with the City of Portland for a variety of monitoring efforts. Such efforts include land use based monitoring, non-stormwater discharge monitoring, and BMP effectiveness monitoring. The Port also implements monitoring efforts which include dry weather field screening of outfalls as part of the Illicit Discharge Detection and Elimination Program, industrial monitoring for compliance with the Port's 1200-Z and 1200-COLS permits, and voluntary water quality monitoring at select mitigation sites.

The IGA with the City of Portland was established on October 5, 1998 and a later addendum, dated August 5, 1999 formalized the agreement stating that the Port will pay its percentage of the City's monitoring costs until 2005. As the current IGA with the City of Portland expires in 2005, the Port and the City are currently working to update and revise the current IGA for the remainder of the permit term.

Although not specifically related to the NPDES MS4 Permit, the Port collects and submits monitoring data to DEQ for the other NPDES permits listed below. Again, these are not components of the Port's stormwater monitoring program but provide useful information regarding the Port's activities. Data collected for these permits is not included in the MS4 Permit annual report, but can be made available through the Port or DEQ upon request.

- NPDES Anti-icing/Deicing Waste Discharge Permit, DEQ File No. 101647
- NPDES Construction Dewatering Waste Discharge Permit, DEQ File No. 101588
- NPDES 1700-B Water Pollution Control Facility (WPCF) Wastewater Discharge Permit, DEQ File No. 107220
- NPDES Excavation Wastewater (Construction dewatering) Permit, DEQ File No. 107220

4.1 Industrial Permit Monitoring

Stormwater sampling at PDX and Terminal 6 is required for general industrial stormwater permit compliance (1200-Z and 1200-COLS permits). As mentioned previously, monitoring related to these industrial permits is not conducted to address a specific MS4 Permit requirement and thus is not submitted for compliance with the Port's MS4 Permit. However, the monitoring provides useful data about Port industrial properties. Data resulting from the site runoff sampling has been and may continue to be useful for understanding water quality impacts from these different types of industrial land uses.

The Port submitted stormwater monitoring data to DEQ for the following industrial stormwater discharge permits:

- NPDES 1200-COLS Industrial Stormwater Discharge Permits, DEQ File Nos. 107220 and 111492 (PDX and Terminal 6, respectively)

- NPDES 1200-Z Industrial Stormwater Discharge Permit, DEQ File No. 103594 (Terminal 6)

This data is not included in the Municipal Permit annual report, but is available through the Port or DEQ upon request.

4.2 Illicit Discharge Inspections and Monitoring

Illicit discharge inspections and monitoring are conducted as part of the Port's MS4 Illicit Discharge Detection and Elimination Program. Dry season inspections occur for all Port-owned outfalls annually. Dry weather field screening is conducted to detect non-stormwater discharges from Port-owned outfalls. If the inspector observes a discharge that is not a permissible discharge as outlined in 40 CFR 122.26(d)(2)(iv)(B)(1), the inspector documents visual observations, source identification procedures are initiated, and water samples are collected for laboratory analysis, if needed, to aid in determining the source of the flow. Port staff schedule follow-up investigations and inspections as necessary.

PDX environmental staff conducted dry season inspections at PDX and PIC in summer 2004 by inspecting a total of 11 monitoring locations. PDX increased the inspections of priority outfalls to include all nine drainage basins on PDX property. Photographs of each monitoring location were taken as documentation. No illicit discharges were discovered.

Marine staff conducted dry season inspections at 11 outfalls on marine terminals in summer 2004. Three outfalls were observed with discharges and water samples were collected at two outfalls. One outfall was inaccessible and not enough flow was present in the manhole to collect a sample. Sources of the other flows were not determined.

Property and Development Services staff conducted dry season inspections at 29 outfalls at the Swan Island and Rivergate industrial parks in summer 2004.

- Thirteen outfalls were inspected at the Rivergate Industrial Park. Staff increased their observations from four priority outfalls to thirteen in order to do a more comprehensive inspection. Five outfalls at Rivergate had summer flows. Discharge from two of these outfalls was determined to be on the list of permitted discharges, discharge from one outfall was the result of improper BMPs and the Port notified the tenant. The tenant hired a contractor to have the pipes cleaned. The source of discharge from the remaining two outfalls was not determined.
- Sixteen outfalls at the Swan Island industrial park were inspected. Two were observed with flows. Discharge from one of the outfalls was determined to be on the list of allowable discharges and discharge from the other outfall was determined to be the result of City staff performing maintenance work on the sewer. This potential illicit discharge was referred to the City's illicit discharge coordinator.

5.0 STORMWATER EXPENDITURES

From a financial perspective, the Port has two primary means of income: (1) Portland International Airport (PDX); and (2) Marine/Other. PDX resources are derived primarily from charges to passengers and cargo airline customers, airport parking, rental car revenue, passenger facility charges, Federal grants and tenant fees. PDX resources are restricted by bond ordinances and Federal Aviation Administration regulations for exclusive use at PDX.

Resources for Marine/Other are primarily derived from fees, charges and leases with Marine customers, leases with tenants of the Port's industrial parks, sales of property at the industrial parks, revenues from the U.S. Army Corps of Engineers (USACE) for dredging services, and property taxes.

Port stormwater expenditures are distributed among five departments: Marine, Property and Development Services, Aviation, Engineering, and Environmental Affairs. Expenditures include Port staff salary (including benefit costs), contractor and consultant fees, stormwater infrastructure costs, City of Portland stormwater fees, stormwater training activities, and stormwater outreach materials.

The Marine Department spent approximately \$278,826 in fiscal year 2004-05 on stormwater expenditures and estimates that expenditures for 2005-06 will be approximately \$700,583. The expected increase in expenses is primarily due to increases in the City of Portland's stormwater fees. Property and Development Services allocated approximately \$49,610 for stormwater-related needs during the 2004-05 permit year and also estimates that expenses for 2005-06 will be similar. The Port's Aviation Department (PDX) spent approximately \$1,458,110 on stormwater related needs in fiscal year 2004-05, and plans to spend approximately \$1,500,010 for fiscal year 2005-06. Stormwater expenditures for the Port's Engineering Department totaled approximately \$234,000 for fiscal year 2004-05, which is also the estimated total for 2005-06. The Environmental Affairs Department designated approximately \$281,921 for stormwater-related uses in 2004-05, and projects that it will spend approximately \$253,663 in 2005-06. The total estimated 2004-05 stormwater expenditures by the Port was \$2,302,467 and the estimated total for 2005-06 is \$2,737,981.

Table 5-1. Summary of Port of Portland Stormwater Expenditures

Department	Estimated 2004-05 Stormwater Expenditures	Estimated 2005-06 Stormwater Expenditures
Marine	\$278,826	\$700,583
Property & Development Services	\$49,610	\$49,725
Aviation	\$1,458,110	\$1,500,010
Engineering	\$234,000	\$234,000
Environmental Affairs	\$281,921	\$253,663
Total	\$2,302,467	\$2,737,981

6.0 INSPECTIONS AND ENFORCEMENT ACTIONS

As described in Section 4.0 of this report, inspection and enforcement activities performed by the Port are primarily related to the dry weather inspections and field screening of stormwater outfalls as part of the Illicit Discharge Detection and Elimination Program. When non-permissible discharges are detected, the Port initiates investigation procedures and conducts follow-up investigation and inspections as necessary.

The Port may take enforcement actions against its tenants if they determine that a violation of the tenant's lease (as related to a stormwater protection clause) occurred that contributed to an impermissible discharge. The Port took no enforcement actions during the 2004-05 reporting year.

7.0 DEMONSTRATION OF CONTINUED LEGAL AUTHORITY TO IMPLEMENT THE PROGRAMS OUTLINED IN THE SWMP

The Port has authority to implement programs outlined in the SWMP through ordinance, permits, and contracts.

The Port has statutory authority to enact ordinances to regulate stormwater sewers that it owns, operates, maintains, or controls. On March 11, 1992, the Port Commission adopted Ordinance No. 361, which provides the Port with legal authority over persons in possession of land owned by the Port. Ordinance No. 361 prohibits such persons from making, causing, or allowing an illicit discharge into a storm sewer owned or operated by the Port. Section 4 of the Ordinance requires written permission from the Port before connection to a Port storm sewer. Section 5 of the Ordinance authorizes the Port to inspect the land and storm sewers for violations of the Ordinance or applicable law that governs the conveyance or disposal of stormwater. In addition, the Ordinance provides the Port with authority to control the contribution of pollutants to storm sewers owned or operated by the Port; the quality of stormwater discharged from the sites of industrial activity on land owned by the Port; and the discharge to storm sewers owned or operated by the Port of pollutants from spills, dumping, or the disposal of materials other than stormwater.

In addition to the Ordinance, the Port has legal authority to control contribution of pollutants to the municipal storm sewer through contracts with its tenants. The lease agreements require the lessees to comply with the Port's MS4 Permit. Where appropriate and necessary, the Port has also entered into stormwater agreements to help control the contribution of pollutants to Port storm sewers. Some properties also have separate stormwater permits, with the Port and tenants as co-permittees. Through these regulatory and contractual mechanisms, the Port is working with tenants and users of Port facilities to implement and evaluate best management practices that will control the contribution of pollutants to Port storm sewers.

8.0 BMP ACCOMPLISHMENTS FOR PERMIT YEAR TEN (2004-2005)

8.1 Introduction

The Port's 2004-2005 MS4 Permit annual report content and format is based on the SWMP drafted in September 2000 and revised in October 2004. Per the new MS4 Permit requirements under Section B(2)(b), the Port's existing SWMP is currently being evaluated and revised to better reflect activities on Port property specifically regulated under the Port's MS4 Permit. Modifications to the existing SWMP will affect the future content and format of the annual reports, but in order to maintain consistency with the existing SWMP, are not reflected in this year's annual report content.

8.2 Current BMP Categories

The Port and its co-permittees developed eight general BMP categories during the permit renewal process for the second term of the Municipal Permit. These general categories provide a framework for co-permittees to improve interagency consistency and coordination. Within these categories, each co-permittee identifies specific BMPs that apply to their respective operations. The eight general BMP categories are listed below:

BMP Code	BMP Action
<i>Public Involvement/Education (PI)</i>	Inform and educate the public, business, industry, and government about the causes of stormwater pollution and its effects on local streams and rivers; to encourage active participation in pollution reduction efforts.
<i>Operation and Maintenance (OM)</i>	Improve existing and/or implement new operation and maintenance practices for public streets, sewers, and other facilities that reduce the amount of pollutants entering the storm sewer system and waterways.
<i>Industrial/Commercial Controls (IND)</i>	Reduce and control industry and commercial discharges to the storm sewer system from runoff and production practices.
<i>Illicit Discharges Controls (ILL)</i>	Develop a program to investigate, find, and eliminate illicit discharges to the stormwater system (illicit discharges include both illicit connections and illegal dumping).
<i>New Development Standards (ND)</i>	Ensure that pollutant controls are applied in project planning, during construction phases, and for existing projects.
<i>Structural Controls (STR)</i>	Incorporate onsite stormwater quality and transport systems into design standards for new and remodeled development; to evaluate, construct/retrofit, and monitor appropriate stormwater treatment and transport systems for both existing and new development.
<i>Planning/System Preservation and Development (PS)</i>	Develop incentives and policies for preservation of natural areas; to modify zoning codes to improve water quality.
<i>Other Activities (OA)</i>	Ensure program coordination, management, evaluation, and monitoring.

Within the general BMP categories listed above, the Port has developed fifteen sub-categories that are specific to Port activities. These subcategories are listed below.

BMP Code	BMP Action
<i>Port-PI1</i>	Conduct public outreach and support programs that increase public awareness of the importance of water quality protection.
<i>Port-PI2</i>	Inform employees and tenants of new stormwater pollution control efforts and activities in each Port operating area. Provide guidance for implementing the programs, where applicable. Participate with the City of Portland and community groups in promoting educational programs that relate to Port operations.
<i>Port-OM1</i>	Evaluate and update stormwater maintenance practices that affect water quality at stormwater quality facilities.
<i>Port-OM2</i>	Evaluate operations and maintenance of Port roads and vehicle maneuvering areas to determine water quality impacts. Recommend procedures or practices to reduce the discharge of pollutants to the stormwater system.
<i>Port-OM3</i>	Review landscape maintenance practices. Recommend the use of vegetation that reduces the need for pesticides, herbicides, fertilizers, and water, where practical.
<i>Port-IND1</i>	Develop a program to reduce the discharge of pollutants to the stormwater system from existing and developing industries on Port property, particularly focused on those that are not already regulated by other NPDES requirements.
<i>Port-ILL1</i>	Review required spill response procedures in each operating area. Refine procedures as necessary, including improving interagency coordination.
<i>Port-ILL2</i>	Provide information to employees and tenants on where and how to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful materials.
<i>Port-ILL3</i>	Detect and control illicit connections and discharges to the stormwater system.
<i>Port-ILL4</i>	Reduce the potential for illegal dumping through active property management.
<i>Port-ND1</i>	Apply practical erosion and sediment controls to reduce pollutant discharges at construction sites on properties being developed by the Port.

BMP Code	BMP Action
<i>Port-STR1</i>	When warranted and appropriate based on available water quality monitoring data, develop procedures for construction, maintenance, and monitoring of water quality facilities.
<i>Port-OA1</i>	Coordinate with applicable agencies working on regulatory aspects of water quality protection, including watershed management, combined sewer overflows, solid waste and recycling, and industrial waste and source control. Cooperate with agencies to implement new source or non-point source control practices where water quality data indicate the need for stormwater quality improvement.
<i>Port-OA2</i>	Promulgate policy and practices to address stormwater pollution issues on all Port property.
<i>Port-OA3</i>	Monitor stormwater to characterize typical discharges to the Port's municipal system.

8.3 SWMP Implementation

The remainder of this annual report describes the activities conducted by the individual Port operating areas during the 2004-2005 fiscal year, categorized according to each of these BMP categories.

PUBLIC INVOLVEMENT

Port-P11	Conduct public outreach and support programs that increase public awareness of the importance of water quality protection.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)Educational Activities

- As a member of the Columbia Slough Watershed Council (CSWC), the Port continued to participate in the Action Plan Implementation Committee and implement the Columbia Slough Watershed Action Plan, which includes enhancement and restoration projects, water quality improvement projects, educational programs, and public recreation opportunities.
- Environmental Affairs staff continued to host and co-chair the Columbia Corridor Association's Water, Air and Waste Committee meetings. The committee sponsors community presentations and sessions including information on industrial stormwater permits and the City's stormwater rate structure.
- Environmental Affairs staff presented the Port's Municipal Stormwater Management Plan to the City of Portland's Stormwater Advisory Committee (SAC) in November 2004. The SAC advises BES, the Commission-in-Charge, City Council and all departments of the City on policy and implementation issues related to stormwater management. The SAC was asked for input on the Port's stormwater program.
- The Port continued to implement the Project Delivery System as a method for providing employees with a template for planning and executing projects. Project Delivery training is conducted for new employees to instruct them on how to involve internal and external stakeholders in project development, including environmental affairs staff to ensure that environmental considerations and MS4 Permit SWMP goals are factored into planning and project execution.
- The Port's Properties and Development Services Department maintains several mitigation sites through the Mitigation Management Program. These sites are designed to provide a number of wildlife and community benefits, including restoring wetland hydrological functions, improving habitat connectivity, controlling the spread of invasive weeds, and providing greenspaces in highly urbanized areas. During the 2004-2005 permit year, the Port utilized these mitigation sites to provide a number of educational and outreach opportunities for the public, including the following:
 - The Port hosted the Multnomah Youth Cooperative in March 2005 for an educational site visit to Vanport Wetlands.
 - The Port hosted the Columbia Slough Watershed Council and Americorps for two visits to Vanport Wetlands to conduct training in wetland ecology.

- The Port continued to make information about the mitigation sites available to the public through its web site (www.portofportland.com).

Educational Publications

- The Port continued to publish *Port Currents*, a quarterly publication dedicated to informing the public about how Port projects, policies and news intersect with community and environmental issues. The Winter 2005 issue featured the Executive Director of the Columbia Slough Watershed Council and the efforts of the Council, of which the Port is a member, in restoring habitat in the watershed. The Spring 2005 issue featured an article titled, "Managing stormwater to protect water quality," and describes the Port's Municipal Stormwater Permit and Stormwater Management Plan.
- The Port continued to publish *Portside*, a publication issued three times per year featuring news and information about airports, marine terminals, industrial parks, and environmental programs. The Summer 2005 issue featured an article about the State Land Board award presented to the Port for the success of the Vanport Wetland mitigation project.
- The Port continued to publish the *Environmental Annual Report*. This annual publication documents the Port's environmental accomplishments for the reporting year, and outlines objectives and targets for the upcoming fiscal year including the objective, minimize impacts to water resources.
- Environmental Affairs staff designed and printed 6,000 stickers and 1,000 folders with a stormwater education theme. The stickers were donated to the Columbia Slough Watershed Council's Slough School as part of the Port's in-kind grant contribution.

Awards

- The Port was one of eleven ports selected by the American Association of Port Authorities and the U.S. Environmental Protection Agency (EPA) to participate in a two-year Environmental Management System (EMS) project aimed at bringing ports together to share strategies for successful EMS implementation. The Port is a mentor to other ports pursuing EMS development.
- In September 2004, the Port won the 2004 American Association of Port Authority's Environmental award in the Comprehensive Environmental Management category. This is the third consecutive year that the Port has won the award. Key elements contributing to the success of the award application were the long-term commitment of the Port to the program, including transferring much of the development and achievement of environmental targets to Port staff in operating areas.

Sponsorships

- The Port continued to host the Environmental Forum three times per year to provide representatives of regulatory agencies, tribes, environmental groups, and elected officials' staff with an opportunity to learn about environmental aspects of the Port's business and provide feedback. The February 2005 Forum, for example, included a presentation on how the Port sets annual objectives and targets under the Port's environmental management system (EMS), including targets under the objective, minimize impacts to water resources.
- The Port was a sponsor for the 2004 Annual Northwest Environmental Conference (NWECC) and Tradeshow. The NWECC is the largest, most comprehensive environmental conference and tradeshow in the Pacific Northwest. Sessions included topics on water quality and NPDES permitting and stormwater management.
- The Port was a co-sponsor for the Oregon Environmental Council's Forum for Business and the Environment speaker series. The Forum is the most highly attended statewide series, and has featured over 80 events and reached more than 5,000 of Oregon's business and community leaders. One of the presentations was titled, "New Technology and Market-Based Solutions to Stormwater Pollution."
- The Port co-sponsored the Annual Columbia Slough Regatta, an annual family-oriented canoeing and kayaking event that provides educational information about the Columbia Slough. Environmental, Marketing and Community Affairs staff volunteered at the event, organized by the Columbia Slough Watershed Council, of which the Port is a member.

PUBLIC INVOLVEMENT

Port-PI2	Inform employees and tenants of new stormwater pollution control efforts and activities in each Port operating area. Provide guidance for implementing the programs, where applicable. Participate with the City of Portland and community groups in promoting educational programs that relate to Port operations.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)General Activities

- The Port's Executive Director continued to support the Port's environmental programs by distributing Port-wide memorandums on environmental objectives.
- Port environmental staff continued to make available to employees and tenants copies of stormwater-related documents such as management plans, programs, procedures, and policies. Environmental Affairs staff and operating area managers relayed informational updates pertaining to stormwater management via email and through meetings. Environmental Affairs staff also distributed informational materials regarding upcoming conferences, training seminars, and stormwater-related environmental issues.
- Port staff from the various operating areas and departments collaborated on the development of new Environmental Objectives and Targets for fiscal year 2005-2006 which includes the objective, minimize impacts to water resources.

Staff Training Activities

- Port staff attended the following professional conferences and seminars during the 2004-2005 permit year:
 - Oregon Association of Clean Water Agencies (ORACWA) Stormwater Summit
 - ORACWA Annual Conference
 - Northwest Environmental Conference and Tradeshow
 - Environmental Law Education Center Stormwater Conference
 - Presentation on the Stormwater Permitting Regulations and Status sponsored by Stoel Rives LLP
 - DEQ's Erosion Prevention and Sediment Control Workshop
- PDX environmental staff conducted stormwater awareness training for PDX general maintenance staff, landscaping maintenance staff and general aviation maintenance staff. Training covered stormwater regulations and appropriate BMPs.
- Marine Environmental provided new staff members with OSHA HAZWOPER training. Refresher training is also provided annually.

- Environmental Affairs staff created MS4 Permit Management Manuals for operating area staff to use as a reference and training guide. The manuals contain the MS4 Permit, the Stormwater Management Plan, the Illicit Discharge Program and the Port's stormwater ordinance.
- All of the Properties Maintenance staff attended the City of Portland Parks Department annual chemical applicator re-certification class. Applicators must complete 40 hours of continuing education within five years.
- Two Properties Maintenance staff attended the Chemical Applicators short course held by Oregon State University's Integrated Plant Protection Center.
- Properties Maintenance conducted annual spill response training for the staff.
- PDX Environmental staff received annual HAZWOPER training.

Tenant and Contractor Training Activities

- PDX Environmental staff conducted erosion prevention and sediment control training for all of the Port's Construction Inspectors in the Engineering Department.
- The Port's Engineering Department continued to implement the Required Environment Practices for Construction by outlining these requirements in all construction contract specifications. The specifications are aimed at preventing stormwater contact with equipment operations that could potentially contribute contaminants if not properly managed.
- PDX continued to host BMP Committee meetings three times per year for PDX employees and tenants. The winter BMP Committee meeting featured a presentation by Environmental Affairs staff on the Port's *Stormwater Management Plan for Underground Injection Control*. Other meetings discussed stormwater and spill prevention requirements.

OPERATIONS AND MAINTENANCE

Port-OM1	Evaluate and update stormwater maintenance practices that affect water quality at stormwater quality facilities.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Operating area staff continued to develop, promote, and implement specific stormwater maintenance practices at Port and tenant facilities. Many of the maintenance practices meet the requirements of NPDES and other permits, including the following:
 - NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
 - NPDES Construction Dewatering Discharge Permit, No. 101588 (PDX)
 - NPDES 1200-CA Stormwater Discharge Permit, No. 107018 (Port-wide)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 107220 (PDX)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 111492 (Terminal 6)
 - NPDES 1200-Z Industrial Stormwater Discharge Permit, No. 103594 (Terminal 6)
 - City of Portland Pretreatment Permit, No. 400-131 (PDX)
- The Port continued to coordinate with the Multnomah County Drainage District (MCDD) through an intergovernmental agreement that covers the maintenance of ditches, pipes, and sumps within PIC and portions of PDX.
- The Port continued to make improvements to the deicing system at PDX. The system is designed to reduce glycol discharges and associated water quality impacts to the Columbia Slough. PDX staff monitored and evaluated the effectiveness of the system throughout the deicing season, and developed operating protocols and quality assurance/quality control (QA/QC) measures to supplement the deicing system's Operations and Maintenance (O&M) Manual.
- Marine staff completed routine stormwater maintenance activities throughout the permit year. Activities included catch basin inspection and cleaning, oil/water separator maintenance, inlet filter maintenance and replacement, and facility sweeping.
- Marine staff continued implementation of stormwater BMPs on leased Marine Terminal properties through the Marine Tenant Management Program. Pollution control practices outlined in the BMPs include the following:
 - Using "dry cleaning" techniques (e.g., sweeping) for outdoor surfaces cleaning;
 - Directing contaminated runoff to sanitary sewers instead of storm sewers;
 - Incorporating landscaped areas into facility design;

- Using lead-free, water-based paints when painting asphalt or other ground features.
- PDX staff continued to host its annual “Spring Cleanup” program at PDX by providing dumpsters for tenants’ scrap metals and other solid waste materials. The waste was taken to a sorting station for recycling. The collection day minimizes improper garbage disposal and storage on Port property.
- PDX staff regularly performed the following routine maintenance practices:
 - Boom deployment, maintenance, and/or replacement;
 - Inlet filter installation, maintenance, and/or replacement;
 - Detention/quiescent pond cleaning;
 - Vegetative swale maintenance;
 - Oil/water separator maintenance;
 - Catch basin inspection and cleaning;
 - Facility sweeping; and
 - Preventative maintenance inspections of aboveground storage tanks (ASTs), and industrial activity areas.
- PDX Drainage Basin 4 quiescent pond was cleaned.
- PDX continued to maintain an intergovernmental agreement with Multnomah County Drainage District to conduct maintenance activities on outfalls and ditches.
- Property and Development Services staff continued to identify and inventory “orphaned” stormwater system components (e.g., catch basins) at its industrial properties, and worked to add these features to the maintenance program.
- Property and Development Services staff managed landscaped areas within the industrial parks and marine terminals to provide stormwater quality improvements. Crews removed and disposed of vegetative debris, scrap metal, and miscellaneous garbage. Staff composted or chipped vegetative debris to create mulch, and disposed of metal and miscellaneous garbage at appropriate facilities.
- Property and Development Services staff contacted 15 tenants to inform them of their status with the Port’s catch basin insert program. Tenants participating in the program had previously agreed to allow the Port to install catch basin inserts in addition to one year of free maintenance. After one year, the tenant is responsible for maintaining the insert at their expense. The Port is tracking tenant response to this program.
- In addition to tenant catch basin maintenance, Property and Development Services staff continued to conduct catch basin cleaning and filter replacement at the following sites:
 - Ship repair parking lot;
 - Port Center parking lot;

- Navigation facility
 - Terminal 5 Entry Road
 - McCarthy Park
- Properties Maintenance staff worked to clear vegetation around several outfalls and culverts on industrial park properties during the permit year to provide better access for inspections and illicit discharge monitoring.
- Properties Maintenance staff continued to provide a scrap metal recycling bin for tenant use at the Properties Maintenance facility.

OPERATIONS AND MAINTENANCE

Port-OM2	Evaluate operations and maintenance of Port roads and vehicle maneuvering areas to determine water quality impacts. Recommend procedures or practices to reduce the discharge of pollutants to the stormwater system.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Marine Facilities Maintenance conducted street sweeping at Terminals 2, 4 and 6 annually with additional sweeping conducted as needed. Maintenance crews and contractors placed swept materials in storage bins to prevent contact with stormwater runoff. The Port appropriately profiled and disposed of these materials.
- Properties Maintenance staff continued to conduct routine pavement maintenance throughout the year, including surface repairs and painting. Crews continued to use specialized tools and techniques to properly handle waste and cleaning products.
- Property and Development Services staff continued contracts for parking lot sweeping for two lots at Port Center at the Swan Island Industrial Park. Sweeping is conducted every other week.
- Properties Maintenance applied deicing chemical to sidewalks at McCarthy Park only on an as-needed basis based during severe weather for safety issues.
- Properties Maintenance installed approximately 60 catch basin filter inserts to the catch basins at Terminal 4. These will be added to the regular maintenance schedule.
- PDX Maintenance staff conducts deicing activities in accordance with PDX's NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647. PDX staff continued to implement the Deicing and Anti-Icing Runoff Control Plan to set the strategy for controlling, collecting, and disposing of deicing and anti-icing materials. PDX Deicing Permit co-permittees carried out stormwater BMPs in their routine activities, including the use of glycol recovery vehicles, forced-air deicing methods for aircraft, employment of a two step chemical application process for pavement deicers, varying aircraft deicing material mix ratios based on ambient temperatures (to be performed by the airlines).
- PDX maintenance staff conducted the following sweeping activities: on the airfield one to two times per week; Frontage Road at PDX two times per week; Airport Way on two times per week; and PDX parking lots two times per week.
- PDX maintenance staff removed runway rubber utilizing a machine that contained and recycled the water used in the cleaning of the runway surface, eliminating surface water runoff from the process.

- PDX maintenance staff maintains indoor storage areas, equipment wash-bays, debris unloading areas, and toluene recovery systems associated with its pavement maintenance operations.

OPERATIONS AND MAINTENANCE

Port-OM3	Review landscape maintenance practices. Recommend the use of vegetation that reduces the need for pesticides, herbicides, fertilizers, and water, where practical.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Properties Maintenance staff continued to require all chemical applicators to obtain and maintain licenses issued by the Oregon Department of Agriculture (ODA), which requires that pesticide applicators receive 40 hours of continuing education training per 5-year license term.
- Properties Maintenance staff continued to be responsible for the landscaping and Properties Maintenance of the Port's industrial parks, marine terminals, and mitigation sites. Properties Maintenance staff employed a program of integrated pest management (IPM), which provides the framework for all pesticide and fertilizer applications. The IPM program establishes a threshold of acceptable appearance, damage, infection, etc. for landscaped areas. Once that threshold has been crossed, corrective measures are taken using the least toxic, most effective methods/materials available.
- The Property and Development Services Department continued to implement the Integrated Pest Management and Work Schedules Program (IPMWS) for Port-owned mitigation sites. The IPMWS identifies problem plant species at each site, provides a profile for each species, recommends control methods, and outlines monitoring protocol schedules.
- Port maintenance staff continued to work to minimize the use of pesticides, fertilizers, and irrigation water in the course of its maintenance activities. Examples of measures employed and guidelines established to accomplish this included the following:
 - Adherence to manufacturer's instructions for storage, handling, and application of chemicals;
 - Following guidelines provided by agencies such as the U.S. Department of Agriculture (USDA), Oregon Department of Agriculture, Portland Parks and Recreation Department, and the Multnomah County Vector Control;
 - Proper disposal of pesticide containers, dead vermin and pests, and other related wastes;
 - Increased emphasis on manual and mechanical methods for weed removal;
 - Selection of herbicide products that are approved for aquatic use and with limited persistence in soil;
 - Selection of plants that are well-suited to site conditions with few pest problems;
 - Use of mulch and drip irrigation systems to conserve water and improve water retention;
 - No fertilizer use airside (inside the security fence) at PDX;

- When appropriate, use of slow-release fertilizer products that minimize “application overages” and help prevent nitrate leaching into the groundwater;
- Use of mycorrhizae (symbiotic fungi) to improve water uptake by plants;
- Improvements in chemical application techniques:
 - Emphasis on spot-spraying as opposed to broadcast spraying
 - Use of small fertilizer spreaders at curbsides to reduce “over spray” and the potential for fertilizers entering stormwater systems
- Planting (or replanting) of areas without groundcover, such as constructed areas where vegetation has not been established;
- Mowing at critical times during the growing season to maximize native seed release and limit weed release;
- Use of alternative mosquito control methods:
 - Provide bat houses to increase bat presence on sites
 - Improve habitat for dragonfly/damselfly species
- Apply techniques to minimize chemical applications, including:
 - Biological controls;
 - Physical controls (e.g., mowing, burning, flooding, grazing);
 - Cultural selection (i.e., the selection of the proper plant species for the area); and
 - Field surveys to assess pest conditions and limit unnecessary chemical applications.
- Properties Maintenance staff discontinued the use of insecticides on industrial park property.
- Properties Maintenance staff made efforts to improve native species diversity and establishment, especially along watercourses. Examples of such efforts include the following:
 - Planting robust native plants that require less irrigation and long-term care than non-natives;
 - Preferentially choosing bio-engineering methods for erosion control near streams and other sensitive areas;
 - Fencing out foraging animals from sensitive areas; and
 - Continuing a program (in cooperation with BES) to remove invasive species along riparian corridors.
- PDX maintenance staff, responsible for landscaping at PDX facilities, continued to implement a number of landscape maintenance practices aimed at improving stormwater quality at the airport, including the following:
 - Maintaining the integrity and function of bioswales by keeping them full with healthy, mature vegetation;
 - Limiting the amount of turf and shrub fertilizer that falls on hard surfaces (e.g., sidewalks, roads, parking lots) by using small fertilizer spreaders, and blowing unintentional applications to these areas back onto the target areas; and
 - Using slow-release nitrogen fertilizers to limit leaching into groundwater and runoff into surface waters.

- The Port continued to implement the Riverbank Management Plan (initiated in 1998), which provides the basis for planning, maintenance and construction decisions along the riverbanks at marine terminals. The plan calls for ongoing surveying, monitoring, and BMP implementation and recommends the use of native plant species for revegetation of riverbank areas.
- Marine Facility Maintenance staff continued to be responsible for maintaining the railyards, asphalt areas, and portions of the riverbank at Terminal 6.
- Environmental Affairs Department maintains a list of pesticides used on Port property. Maintaining a reference list allows for staff to determine usage of particular products and comply with new regulatory requirements for specific usage or restrictions.

INDUSTRIAL AND COMMERCIAL CONTROLS

Port-IND1	Develop a program to reduce the discharge of pollutants to the stormwater system from existing and developing industries on Port property, particularly focused on those that are not already regulated by other NPDES requirements.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Port Ordinance No. 361, an ordinance regulating stormwater, authorizes Port staff to inspect tenant facilities, restrict connections to the MS4, and impose penalties to known violators.
- Agreements and contract provisions were implemented to control pollutant discharges to the Port's stormwater system. These include, but are not limited to, construction dewatering agreements, storage tank use agreements, environmental specifications for construction projects, right-of-entry permits, operating permits, and mobile fueling permits.
- Environmental Affairs continued to record tenants on Port-leased property with and without NPDES permit responsibilities.
- Property and Development Services and PDX Properties staff continued to include stormwater language into tenant leases.

ILLICIT DISCHARGES CONTROLS**Port-ILL1 Review required spill response procedures in each operating area. Refine procedures as necessary, including improving interagency coordination.****KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)**

- The Port continued to rely on emergency response plans in dealing with emergency situations at Port facilities. The plans establish roles and responsibilities within the organization for emergency/spill response and cover other important information, such as reporting procedures, “reportable quantities,” agency and internal notification requirements, hazardous waste concerns, and general safety. The Port implements the following plans that establish reporting protocols for spills, define roles and responsibilities, identify notification requirements, and address other general environmental issues:
 - Portland International Airport Spill Response Plan
 - Portland International Airport Spill Prevention Control and Countermeasures (SPCC) Plan
 - Portland International Airport Stormwater Pollution Control Plan
 - Marine Terminal 6 Spill Response Plan
 - Marine Terminal 6 Stormwater Pollution Control Plan
- Emergencies and spills on Aviation properties are reported directly to the PDX Communications Center.
- Emergencies and spills on Marine and other properties are reported to the Marine Security Office and to the Spill Response Coordinator in Marine who then contacts one of the Port’s designated contractors for cleanup and conducts any required agency reporting.
- Emergency contact information is posted on the first page of the Port telephone directory and can be accessed through the PortNet computer network.
- The Port continued to require construction specifications, *Environmental Practices for Construction*, for Port contractors, which include measures for spill prevention and response.
- PDX environmental staff, the Port spill response contractors, and PDX Aircraft Rescue and Firefighting participated in a spill response drill.
- The Marine/Properties Spill Response Coordinator remained an active member of the City of Portland’s Regional Spill Committee.

- Marine staff continued to participate in spill response programs through the Maritime Fire and Safety Association and the Clean Rivers Co-op.
- The Marine Spill Response Coordinator distributed the Emergency On-Call Schedule to Port and Marine security employees.

ILLICIT DISCHARGES CONTROLS

Port-ILL2	Provide information to employees and tenants on where and how to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful materials.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- The Property and Development Services continued a public outreach campaign to prevent stormwater pollution at storm drains through the use of curb/pavement decals and posters. The decals which say “Dump No Waste, Drains to Stream” are glued to the pavement next to catch basins as a reminder that polluted stormwater drains directly to rivers. Property and Development Services staff installed 75 markers on catch basins at Portland International Center (PIC), 30 at Rivergate Industrial Park and 5 at Swan Island Industrial Park.
- The Port’s Risk Management group maintains a Port-wide online inventory of hazardous materials Material Safety Data Sheets (MSDS) used on Port properties.

ILLICIT DISCHARGES CONTROLS**Port-ILL3 Detect and control illicit connections and discharges to the stormwater system.****KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)**

- PDX, Marine and Properties and Development Services Staff continued to implement the Illicit Discharge Detection and Elimination Program. The procedures outlined in the program cover the following topics:
 - Enforcement of Port Ordinance 361;
 - Dry season field monitoring;
 - Priority and schedule of major outfall inspections; and
 - Investigation of potential illicit discharges.
- PDX environmental staff conducted dry season inspections at PDX and PIC in summer 2004 by inspecting a total of 11 monitoring locations in summer 2004. PDX has increased the inspections of “priority” outfalls to include all nine drainage basins on PDX property. Photographs of each monitoring location were taken as documentation. No illicit discharges were discovered.
- Marine staff conducted dry season inspections at 11 outfalls on marine terminals in summer 2004. Three outfalls were observed with discharges and water samples were collected at two outfalls. One outfall was inaccessible and not enough flow was present in the manhole to collect a sample. Sources of the other flows were not determined.
- Property and Development Services staff conducted dry season inspections at 29 outfalls at the Swan Island and Rivergate industrial parks in summer 2004.
 - Thirteen outfalls were inspected at the Rivergate industrial park. Staff increased their observations from four priority outfalls to thirteen in order to do a more comprehensive inspection. Five outfalls at Rivergate had summer flows. Discharges from two outfalls were determined to be on the list of permitted discharges, discharge from one outfall was the result of improper structural(?) BMPs and the Port notified the tenant. The tenant hired a contractor to have the pipes cleaned. The sources of discharge from two outfalls were not determined.
 - Sixteen outfalls at Swan Island industrial park were inspected. Two outfalls were observed with flows. Discharge from one outfall was determined to be on the list of allowable discharges, and discharge from the other outfall was attributed to City staff performing maintenance work on the sewer. This potential illicit discharge was referred to the City’s illicit discharge coordinator.

ILLICIT DISCHARGE DETECTION

Port-ILL4	Reduce the potential for illegal dumping through active property management.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Property and Development Services and PDX continued to secure much of its property with fences and locked gates, limiting access to potential violators. In areas where public access must be maintained, the Port posts signs with warnings against illegal dumping.
- Property and Development Services maintenance staff continued to conduct weekly security checks at industrial park property and conduct weekly garbage pick-ups. If trash is dumped on or near a mitigation site, the Port hires a contractor to remove it immediately. If a vehicle is abandoned on or near a site, the Port has it towed. If hazardous waste is found, Port staff coordinate with the City and other agencies, as appropriate, to properly isolate and dispose of the waste. Garbage dumped on properties not owned by the Port is reported to the City of Portland. Through an interagency agreement, the City of Portland is also responsible for removing illegally dumped materials found in public right-of-ways (roads).
- Property and Development Services staff continued to coordinate with staff from the Port's operating areas to investigate violations, search for abandoned waste, and identify responsible parties.
- PDX Ground Transportation Office staff continued to patrol the taxi hold parking areas for trash and illegal dumping.
- PDX continued offering appropriate waste disposal measures by providing dumpsters for tenants' scrap metals and other solid waste materials during the annual "Spring Cleanup" event.
- PDX, Properties and Marine continued to use environmental contractors for the disposal of hazardous materials.
- Environmental Affairs staff coordinated a clean up day at three Port properties. Approximately 35 Port staff picked up approximately 600 pounds of garbage along the 1.8 miles of riverbank at Terminal 5, Terminal 6 and Swan Island Industrial Park.

NEW DEVELOPMENT STANDARDS

Port-ND1	Apply practical erosion and sediment controls to reduce pollutant discharges at construction sites on properties being developed by the Port.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- The Port holds the following permits which regulate erosion control activities on Port properties:
 - NPDES 1200-CA Stormwater Discharge Permit, File No. 101018. The Port set contract specifications for construction projects that include requirements to prepare an erosion and sediment control plan (ESCP). The ESCPs are reviewed and approved by Port engineering and environmental staff. The provisions of the approved ESCP are ensured through specific enforcement of Port contracts. Port and City inspectors regularly inspect Port projects for conformance with the ESCP and jurisdictional requirements. If projects are determined to have inadequate ESCP implementation, Port staff work with the contractors to meet the requirements of the ESCP.

PDX Environmental staff addressed erosion control compliance issues during tenant meetings, pre-construction meetings, weekly construction meetings, and weekly site inspections.

Engineering continued to include Environmental Practices for Construction in the construction specifications for Port contractors. These specifications apply to all Port construction projects and address a variety of concerns, including erosion and sediment control. The specifications reference the City of Portland's Erosion Control Manual.

Environmental Affairs staff created the *Environmental Practices for Port Construction Guidance Manual* as a tool for Port construction inspectors and environmental staff. The manual details and illustrates proper and improper best management practices for minimizing impacts to water resources from construction projects.

- NPDES Dewatering Discharge Permit, No. 101588. This permit regulates the discharge of treated excavation wastewater at the PDX and PIC facilities to the storm sewer system. PDX Environmental staff prepared a Dewatering Guidance for Port Staff in order to outline responsibilities under the Dewatering Permit.

- Environmental Affairs staff continued to coordinate the Construction Issues Coordination Group meetings. The group, consisting of staff from PDX, marine, engineering, construction, legal and environmental, meets monthly to improve Port-wide communication on general environmental construction issues.
- Property and Development Services staff provided guidance to engineering staff on planting plans for erosion control at construction sites, promoting the use of native herbaceous species that are fast germinators.
- Construction of Toyota Logistics Services, Inc.'s new auto handling facility at Terminal 4 was completed. The redeveloped facility was designed to lessen environmental impacts due to stormwater runoff. The stormwater management system directs runoff to bioswales or an oil and solids removal system. Rainwater is collected from the roof and recycled to the toilets. In addition, 1,700 linear feet of restored riverbank will improve wildlife habitat, control erosion and filter stormwater. The Toyota facility received Leadership in Energy and Environmental Design (LEED) certification in 2004.
- PDX environmental staff reviewed Port and tenant aviation construction projects for environmental issues, providing design input to ensure all appropriate environmental safeguards were implemented

STRUCTURAL CONTROLS

Port-STR1	When warranted and appropriate based on available water quality monitoring data, develop procedures for construction, maintenance, and monitoring of water quality facilities.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Operating area staff continued to be responsible for evaluating practices at their respective facilities, and for updating site-specific plans, as needed. The Port's operating areas implement the following permits and plans:
 - NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
 - NPDES Construction Excavation Waste Water Discharge Permit, No. 101588 (PDX)
 - NPDES 1200-CA Stormwater Discharge Permit, No. 107018 (Port-wide)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 107220 (PDX)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 111492 (Terminal 6)
 - NPDES 1200-Z Industrial Stormwater Discharge Permit, No. 103594 (Terminal 6)
 - City of Portland Pretreatment Permit, No. 400-131 (PDX)
 - PDX Anti-Icing/Deicing Management Plan
 - Terminal 6 Stormwater Pollution Control Plan
 - PDX Stormwater Pollution Control Plan
- PDX completed the Stormwater Pollutant Load Model Report for Portland International Airport in May 2005 as part of the Strategic Environmental Evaluation for the 2000 PDX Master Plan. The purpose of the modeling effort was to compare existing stormwater pollutant loading to loading associated with four potential development alternatives. The model also provides a basis for evaluating stormwater treatment options.

OTHER ACTIVITIES

Port-OA1	Coordinate with applicable agencies working on regulatory aspects of water quality protection, including watershed management, combined sewer overflows, solid waste and recycling, and industrial waste and source control. Cooperate with agencies to implement new source or non-point source control practices where water quality data indicate the need for stormwater quality improvement.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- The Port continued to dedicate extensive staff time and resources towards coordination with agencies and organizations that work on water quality issues. Environmental affairs and operating area staff regularly attend public meetings, hearings, and other forums that involve stormwater issues. Port staff are also active members of community workgroups and advisory committees.
- The Port remained actively involved with the following organizations with projects aimed at improving source and non-point source control practices:
 - Columbia Slough Watershed Council
 - Columbia Slough Watershed Council Action Plan Implementation Committee
 - Columbia Slough Watershed Council Action Plan Administrative Committee
 - Oregon Association of Clean Water Agencies
 - Urban Ecosystem Research Consortium
 - Stakeholder Forum on Federal Wetlands Mitigation
 - Mosquito Control Stakeholders Group
 - Willamette River Restoration Initiative
 - City of Portland's River Renaissance
 - City of Portland Watershed Science Advisory Group
 - City of Portland's South Shore Wellfield Wellhead Protection Program
 - City of Portland Bureau of Environmental Services Revegetation Program
 - City of Portland Stormwater Advisory Committee
 - Smith and Bybee Lakes Wetlands Management Committee
- The Port continued to coordinate with a variety of public agencies on stormwater-related projects and programs. These agencies included the following:
 - U.S. Army Corps of Engineers
 - Oregon Department of State Lands
 - Oregon Department of Environmental Quality
 - Multnomah County Drainage District
 - Multnomah County Vector Control
 - City of Portland Bureau of Environmental Services
 - City of Portland Water Bureau
 - Metro

OTHER ACTIVITIES

Port-OA2	Promulgate policy and practices to address stormwater pollution issues on all Port property.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Environmental Affairs and environmental staff within the operating areas provide guidance on the development, refinement, and implementation of environmental policies, procedures, and practices to benefit stormwater quality.
- The Port continued to implement the Port-wide Environmental Policy, adopted by the Port of Portland Commission February 2000:

“The Port of Portland will achieve its mission through responsible environmental stewardship and proactive environmental programs. The Port will integrate environmental considerations into all aspects of its strategic planning and business decision-making.”

This general policy is promulgated by the Environmental Affairs Department and sets the stage for the Port’s many environmental programs. The Port’s Environmental Policy, along with more specific policies and procedures (e.g., Environmental Water Resources Policy and related procedures) are made available to Port staff through the Port’s EMS. Other plans and programs, which also address stormwater pollution issues, remain in effect, including the Tenant Management Program, the Natural Resource Assessment and Management Plan (NRAMP), and the Riverbank Management Program.

- Environmental Affairs and environmental staff within the operating areas track compliance with stormwater regulations and support efforts to meet the Port’s Environmental Objectives and Targets.
- Environmental Affairs continued to update and improve its GIS data to include stormwater facilities and land-use information. Through its GIS system, the Port has developed maps for planning and evaluating stormwater issues and policies.
- The Port continued to develop and implement its EMS, which integrates the Port’s environmental policy into planning for and operating its business. The following list represents significant elements of the EMS that were continued through the permit year.
 - Environmental Procedures—The Port continued to develop, refine, and implement environmental procedures that describe how to carry out policies and programs and manage environmental permits.

- Environmental Objectives and Targets—The Port established and reported progress on its 2004-2005 environmental objectives and targets in the Port's Environmental Annual Report.
- EMS Management Review—The Port conducted an EMS Management Review to assess the suitability, adequacy and effectiveness of the Port's EMS. Included in this review were the Port's environmental policy and practices.
- Environmental Water Resources Policy—The Port worked to improve consistency in BMP development, documentation, interpretation, implementation, and evaluation through new written procedures.
- Property and Development Services continued to implement the Mitigation Management Program. Mitigation sites are designed to provide a number of wildlife and community benefits, and are based upon adaptive management techniques. The Plan includes detailed maintenance and monitoring schedules for five mitigation sites.

OTHER ACTIVITIES**Port-OA3 Monitor stormwater to characterize typical discharges to the Port's municipal system.****KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)**

The Port continued to provide financial support through an intergovernmental agreement to the City of Portland for monitoring, as required by the Municipal Permit. Monitoring results are included in the City of Portland's section.

- Although not specific to the MS4 Permit, monitoring data is collected under the following permits and submitted to DEQ:
 - NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
 - NPDES Construction Excavation Waste Water Discharge Permit, No. 101588 (PDX)
 - NPDES 1200-COLS Industrial Discharge Permit, No. 107220 (PDX)
 - NPDES 1200-COLS Industrial Discharge Permit, No. 111492 (Terminal 6)
 - NPDES 1200-Z Industrial Discharge Permit, No. 103594 (Terminal 6)
- The Port completed the first phase of implementing the new Port-wide environmental monitoring data software. Data collected is related to 1200-COLS and 1200-Z permits, illicit discharge investigations and deicing and dewatering permits. Data is being tracked according to sample site, parameter and associated permit for Port-wide analysis. The Port coordinates with contracted analytical laboratories to obtain data in electronic format that feeds the database.
- Property and Development Services monitored the water quality at the Vanport wetland site. The site will be tested every other year for the following water quality parameters: PAHs, heavy metals, coliform bacteria, and nutrients. Results are analyzed internally to determine project effectiveness.

8.4 Proposed Changes to the SWMP Components

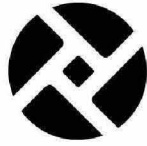
As part of the Interim Evaluation Report required by Section B(2)(b) of the Permit, the Port is in the process of completing a review of BMPs with those staff responsible for BMP implementation. As part of this process, the Port is in the process of revising the SWMP including changing some of the specific BMPs. The Port plans to restructure the SWMP for simplification and to more closely align BMPs with specific permit requirements. The BMP numbering system will be eliminated and BMPs will be referred to by name. These changes will be recommended to DEQ as part of the Interim Evaluation Report due in May 2006.

APPENDIX A

NPDES-Permitted Tenant List 2004-05

Port of Portland
NPDES-Permitted Tenant List 2004-05

Port Property	Tenant Name	Tenant Legal Permit Name	Address	Permit Type
Terminal 2	Stevedoring Services of America, Inc.	Stevedoring Services of America, Inc.	3556 NW Front Ave.	1200-Z
Terminal 4	Kinder Morgan Bulk Terminal 4	Kinder Morgan Bulk Terminals, Inc.	11040 N Lombard St.	Individual non-process wastewater
Terminal 4	International Raw Materials	International Raw Materials, LTD	11040 N Lombard St.	1200-Z
Terminal 4	Toyota Logistics Services, Inc.	Toyota Logistics Services, Inc.	11020 N Lombard St.	1200-Z
Terminal 5	Columbia Grain, Inc.	Columbia Grain, Inc.	15660 N Lombard St.	1200-Z
Terminal 5	Portland Bulk Terminal 5	Kinder Morgan Bulk Terminals, Inc.	1550 N Lombard St.	1200-Z
Terminal 6	Auto Warehousing Company	AWC Port Services, Inc.	6347 N. Marine Dr.	1200-COLS
Terminal 6	Glovis America, Inc.	Glovis America, Inc.	8235 N. Marine Dr.	1200-COLS
Portland International Center	Yoshida Foods International	Yoshida Foods International Limited Partnership	8440 NE Alderwood	1200-COLS



PORT OF PORTLAND

**National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System Permit
Permit Number 101314**

ANNUAL REPORT NO. FOURTEEN

Fiscal Year 2008-09

(July 1, 2008 – June 30, 2009)

Prepared for:
Oregon Department of Environmental Quality

November 1, 2009

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ACRONYMS

BMP – Best Management Practice

DEQ – Department of Environmental Quality

EMS – Environmental Management System

IER – Interim Evaluation Report

IGA – Intergovernmental Agreement

IPM – Integrated Pest Management

MEP – Maximum Extent Practicable

MFM – Marine Facilities Maintenance

MID – Marine and Industrial Development

MS4 – Municipal Separate Storm Sewer System

NPDES – National Pollutant Discharge Elimination System

PDX – Portland International Airport

PIC – Portland International Center

SWMP – Stormwater Management Plan

SWPCP – Stormwater Pollution Control Plan

TMDL – Total Maximum Daily Load

USB – Urban Services Boundary

1.0 INTRODUCTION

The Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from Port of Portland (Port) property through the Municipal Separate Storm Sewer System Discharge Permit No. 101314 (MS4 permit) and other National Pollutant Discharge Elimination System (NPDES) stormwater permits, including the 1200-Z, 1200-COLS and 1200-CA permits. This annual report describes activities specifically related to implementation of the Port's MS4 permit.

The Port and Multnomah County are co-permittees on the City of Portland's MS4 permit. As required under Schedule B(2)(a) of the MS4 permit, each co-permittee must submit an annual report, summarizing accomplishments and implementation of the Municipal Stormwater Management Plan (SWMP).

This annual report documents activity from July 1, 2008 to June 30, 2009 related to the Port's stormwater management efforts under the MS4 permit and SWMP. Each section of the report, with the exception of Sections 2.0 and 3.0, corresponds to the specific requirements in Schedule B(2)(a) of the MS4 permit. The report emphasizes efforts and activities associated with individual Best Management Practices (BMPs) from the Port's SWMP (as summarized in Section 7.0).

2.0 DESCRIPTION OF PORT OF PORTLAND PERMIT AREA AND RESPONSIBILITIES

The Port of Portland owns approximately 6202 acres within the City of Portland (City) Urban Services Boundary (USB). Port property is divided into two primary operating areas: 1) Aviation and 2) Marine and Industrial Development (MID). Within the City USB, the Aviation Division consists of Portland International Airport (PDX), and the MID Division includes Marine Terminals 2, 4, 5 and 6 and the following industrial parks: Swan Island; Rivergate; and Portland International Center.

The Port also owns a number of undeveloped properties including wetland mitigation sites and part of West Hayden Island. PDX, the marine terminals, and the industrial parks are partially occupied by tenants, and the Port manages those tenant properties through lease agreements. Approximately 20% of Port property within the USB is leased to tenants. A more detailed description of the Port operating areas is included in Section 2.1.

Property owned by the Port is primarily zoned for commercial and industrial use. Many of these areas have regulated industrial activities that require DEQ-issued NPDES general industrial stormwater permits. Some of the industrial permit requirements overlap with the MS4 permit requirements. PDX and portions of Terminal 2 and 6 operate under DEQ-issued general industrial stormwater discharge permits (1200-Z and 1200-COLS permits). In addition, some tenants occupying portions of Terminals 2, 4, 5, and 6, and the industrial parks also operate under DEQ-issued general industrial stormwater discharge permits. For these areas operating under general industrial stormwater permits, several of the MS4 permit requirements are addressed through implementation of their industrial stormwater permits, specifically their

Stormwater Pollution Control Plans (SWPCPs). Section 2.2 details the Port's MS4 permit responsibility.

2.1 Summary of Port of Portland Permit Area

2.1.1 Portland International Airport

PDX comprises an area of approximately 2,865 acres and is located in northeast Portland between the Columbia River and the Columbia Slough. The facility is owned and operated by the Port, and numerous aviation-related tenants also conduct operations at the facility.

Stormwater runoff from PDX property discharges into the Columbia Slough through a series of pipes and open channels and 11 major outfalls, and stormwater discharges are permitted under PDX's NPDES 1200-COLS General Industrial Stormwater Discharge Permit, issued and administered by DEQ. The 1200-COLS permit is structured to specifically address Columbia Slough Total Maximum Daily Load (TMDL) parameters, including dissolved oxygen, pH, nutrients, bacteria, and toxics. With the exception of the Oregon Air National Guard, which has its own 1200-COLS permit, PDX tenants whose operations require stormwater permits are required to be a co-permittee under PDX's 1200-COLS permit. . In addition to the 1200-COLS permit, PDX also holds an NPDES Construction Dewatering Waste Discharge Permit, a City of Portland Pretreatment Permit, a Water Pollution Control Facility (WPCF) 1700-B Wastewater Permit, and an NPDES Anti-icing/Deicing Waste Discharge Permit. These additional permits and associated BMPs are not discussed in this report.

2.1.2 Marine Terminals

The Port has four active shipping terminals that are managed by the Port's MID Division. The terminals collectively occupy approximately 952 acres along the Willamette River (Terminals 2, 4, and 5) and Columbia River (Terminal 6). The terminals handle the shipping, receiving, and temporary storage of finished goods, agricultural products, and raw materials.

Because Terminal 6 discharges into two water bodies, the Columbia River and the Columbia Slough, the Port holds both a 1200-Z (Columbia River) and 1200-COLS (Columbia Slough) general industrial stormwater discharge permit for Terminal 6. The Port also holds a 1200-Z permit for the Port-managed area of Terminal 2. A number of properties located at Terminals 2, 4, 5 and 6 are leased to tenants. Some of these tenants also hold 1200-Z permits that are issued by DEQ and administered by the City. Unlike PDX, tenants do not have the option to be a co-permittee of the Port's 1200-Z permit.

2.1.3 Industrial Parks

The Port's MID Division manages the Port-owned industrial parks, including those at Swan Island, Rivergate, and Portland International Center (PIC), totaling approximately 1,597 acres. Two industrial park tenants hold 1200-Z permits that are issued by DEQ and administered by the City.

2.1.4 Undeveloped Properties

The Port's MID Department manages approximately 788 acres of undeveloped property within the City's USB. Stormwater management for undeveloped properties that discharge into the Port's MS4 is conducted under the Port's MS4 permit.

2.2 Summary of Port of Portland MS4 Permit Responsibility

Many of the requirements of the general industrial stormwater discharge permits overlap with requirements of the MS4 permit. A large proportion of area included in the Port's MS4 permit area is also regulated by these industrial stormwater permits, which have been issued to either the Port or to the Port's tenants.

The City is the lead permittee on the Port's MS4 permit. The City regulates stormwater on a city-wide basis with some implementation overlapping the Port's MS4 area. The Port and City coordinate permit management activities through an intergovernmental agreement (IGA).

Because of the complex relationship between the Port's management of stormwater through their MS4 permit, the City's overlapping stormwater management activities through their MS4 permit, and DEQ's regulation of stormwater on some Port property through other NPDES permits, the Table of Permit Requirements and Responsibilities (Table 2-1) was developed as part of the Port's SWMP to show how the Port's MS4 permit requirements align with the City's activities and industrial stormwater permit requirements and associated stormwater management activities conducted by the Port or Port tenants.

The Table of Permit Requirements and Responsibilities lists the SWMP requirements from the Port's MS4 permit along the left hand column. Responsibility descriptions for each SWMP requirement are split according to the following two categories: (1) Port MS4 permit areas that do not have industrial stormwater permits (1200-Z or 1200-COLS permits), and (2) Port MS4 permit areas where the Port or its tenant has a general industrial stormwater permit (1200-Z or 1200-COLS permits). The two responsibility categories are further split between tenants and Port operations. For some tenants and Port operating areas (Terminals 2 and 6 and PDX) with an industrial stormwater permit, some of the MS4 permit requirements related to specific activities are addressed through implementation of the industrial stormwater permits. MS4 permit requirements that are addressed through implementation of the industrial stormwater permit requirements are shown shaded gray on Table 2-1. In addition, some permit requirements do not apply to the Port as they are covered within the Port's jurisdiction by the City's activities. These requirements are also shaded in gray on Table 2-1. Areas left unshaded on Table 2-1 are addressed by BMPs in the Port's 2006 SWMP. The unshaded areas list the specific BMPs that meet the permit requirements.

Section 7.0 of this annual report outlines the BMPs listed in the Port's 2006 SWMP and specifies those parties responsible for implementation of tasks required to meet the goal of the BMP. In addition, Section 7.0 describes the various activities that the Port has conducted during the permit year to address the specific tasks under each BMP.

Table 2-1. Port of Portland MS4 Permit Requirements and Responsibilities

MS4 permit SWMP Requirements	MS4 Service Areas Not Covered Under Industrial Stormwater Permits		MS4 Service Areas With Industrial Stormwater Permits	
	Tenants	Port Operations (Terminals and Industrial Parks)	Tenants	Port Operations (Airport, Terminals (T2 and T6))
Schedule B(1)(a-d) Monitoring Component Requirements				
The Port must assist with monitoring efforts in conjunction with requirements as stated in Tables B-1 and B-2, Schedule B(1)(b)(i-vi), Schedule B(1)(c)(i-ii), and Schedule B(1)(d).	Pursuant to an IGA, the Port of Portland and the City of Portland have a joint monitoring program conducted by the City to meet the requirements specified under Schedule B.			
Schedule D(2)(c)(i) Implement structural and source control measures for existing and new residential and commercial areas.				
1. Maintenance activities and maintenance schedule for structural controls.	BMP: Implement a Stormwater System Cleaning and Maintenance Program.		Covered under 1200-Z and COLS permits ¹ - Schedule A.2.b.iii (1200-Z) and Schedule A.2.c.iii (1200-COLS)	Covered under 1200-Z and COLS permits - Schedule A.2.b.iii (1200-Z) and Schedule A.2.c.iii (1200-COLS)
2. Planning procedures to control pollutant discharges from areas of new and redevelopment.	The City of Portland is responsible for implementing development standards for water quality structural controls.			
3. Practices for operating and maintaining streets.	The City of Portland is responsible for operation and maintenance of the public right-of-way.			
	BMP: Implement a Street and Vehicle Maneuvering Area Cleaning and Maintenance Program.			
4. Retrofitting flood control facilities.	The City of Portland manages water quality improvements on a master planning level.			
5. Monitor landfills.	The Port does not have any operating or closed landfills within its jurisdiction.			
6. Program to reduce pesticides/herbicides/fertilizers.	BMP: Limit Landscape Maintenance Activities Impact on Stormwater. BMP: Require Appropriate Training and Licensing for Pest Management Activities. BMP: Implement a Tenant BMP Program.			
Schedule D(2)(c)(ii) Detect and remove illicit discharges.				
1. Program, including inspections to eliminate illicit discharges.	BMP: Implement the Illicit Discharge Detection and Elimination Program.			
2. On-going field screening program.	BMP: Implement the Illicit Discharge Detection and Elimination Program.			

MS4 permit SWMP Requirements	MS4 Service Areas Not Covered Under Industrial Stormwater Permits		MS4 Service Areas With Industrial Stormwater Permits	
	Tenants	Port Operations (Terminals and Industrial Parks)	Tenants	Port Operations (Airport, Terminals (T2 and T6))
3. Field screening follow-up investigations.	BMP: Implement the Illicit Discharge Detection and Elimination Program.			
4. Spill prevention and response.	BMP: Implement a Spill Response Program for Port Operated Property. BMP: Implement a Spill Response Training Program.		Covered under 1200-Z and COLS permits – Schedule A.2.b.ii (1200-Z) and Schedule A.2.c.ii (1200-COLS)	
5. Promote public reporting of illicit discharges.	BMP: Implement Public Education and Public Reporting Measures to Protect Stormwater Quality.		Spill response activities address employee reporting and are covered under 1200-Z and COLS permits – see above	
6. Public education re: proper disposal of toxic materials.	BMP: Implement Public Education and Public Reporting Measures to Protect Stormwater Quality. BMP: Implement a Tenant BMP Program.		Covered under 1200-Z and COLS permits – Schedule A.2.b.i [3] (1200-Z) and Schedule A.2.c.i [3] (1200-COLS)	
7. Control infiltration from sanitary sewers.	The City of Portland is responsible for sanitary sewers City-wide.			
Schedule D(2)(c)(iii) Monitor pollutants from landfills and industrial facilities.				
1. Industrial inspection program.	BMP: Implement an Industrial Inspection Program.			
2. Industrial monitoring program.	The IGA between the City of Portland and Port contains some industrial monitoring elements. The City of Portland currently collects and analyzes samples from select permitted industries, and monitors multiple storm events at a select industrial outfall to evaluate industrial program effectiveness. Additionally, the Port uses accumulated monitoring information from the City of Portland to conduct individual, site-specific investigations. The Port also monitors industries suspected of illicit discharges as a result of illicit discharge investigations.			Covered under 1200-Z and COLS permits – Schedule B.1 and B.2
Schedule D(2)(c)(iv) Develop a program to implement and maintain construction site BMPs.				
1. Procedures for site planning to address water quality.	If not covered by a 1200-C Permit, then covered under the City of Portland's erosion control ordinance.	Covered under the Port's 1200-CA Permit	If not covered by a 1200-C Permit, then covered under the City of Portland's erosion control ordinance.	Covered under the Port's 1200-CA Permit
2. Requirements for construction site BMPs.				
3. Procedures for inspection and enforcement.				

MS4 permit SWMP Requirements	MS4 Service Areas Not Covered Under Industrial Stormwater Permits		MS4 Service Areas With Industrial Stormwater Permits	
	Tenants	Port Operations (Terminals and Industrial Parks)	Tenants	Port Operations (Airport, Terminals (T2 and T6))
4. Education/training for construction site operators.	BMP: Provide Erosion Prevention and Sediment Control Training for Construction Inspectors			

Notes:

¹ Maintenance may be conducted by the Port as agreed upon in tenant leases.

Areas shaded in gray are MS4 permit requirements that are not specific Port responsibilities under the MS4 permit because the requirements are either covered by the City of Portland, or are covered under an industrial stormwater permit.

Areas unshaded are the responsibility of the Port and covered by the Port's SWMP BMPs.

3.0 PORT OF PORTLAND ORGANIZATIONAL STRUCTURE

The Port's Environmental Affairs Department is responsible for administering the MS4 permit and the SWMP. The Environmental Affairs Manager serves as the MS4 permit manager. Staff from the MID and Aviation Divisions are responsible for implementing Port environmental programs to ensure permit compliance. As a means of coordinating Port-wide programs and policies, environmental program managers regularly meet with Port operating area staff. One means of coordination between staff in Environmental Affairs, MID and Aviation divisions is through the Water Resources Coordination Group. This group includes staff from Environmental Affairs, Legal, Aviation, Marine and Industrial Development, Public Affairs and Engineering. This group meets monthly and is responsible for coordination on Port-wide stormwater policy issues, water quality, and permit implementation. The Environmental Affairs manager serves as the lead for the Water Resources Coordination Group.

With respect to the implementation of the Port's general industrial stormwater discharge permits, PDX environmental staff prepares, updates, and ensures implementation of the PDX SWPCP in conjunction with the co-permittees. Marine environmental staff prepares, updates, and ensures implementation the SWPCP for Terminals 2 and 6. Tenants with industrial stormwater discharge permits are also required to prepare, maintain and implement SWPCPs. The City (DEQ's agent) coordinates directly with Port tenant permit holders.

4.0 STORMWATER EXPENDITURES

The Port's mission is to enhance the region's economy and quality of life by providing efficient cargo and air passenger access to global and national markets. In support of this mission, the Port annually undertakes budget and business planning to identify areas of focus and actions needed to address them.

The Port derives almost all revenue from business transactions with the users and tenants of Port facilities. A small proportion (approximately three percent) of the Port's overall revenue is from property tax. Business transactions generally occur between the MID Division, the Aviation Division (Commercial Aviation and General Aviation), and associated users and tenants of those properties. Revenue from the MID Division is primarily derived from fees, charges and leases with marine customers, leases with tenants of the Port's industrial parks, and sales of property at the industrial parks. The Port also receives revenue from the U.S. Army Corps of Engineers for dredging services.

Commercial Aviation (PDX) resources are derived primarily from charges to passengers and cargo airline customers, airport parking, rental car revenue, passenger facility charges, Federal grants, and tenant fees. PDX resources cannot be commingled with any other resources of the Port and are restricted for use at Aviation facilities by bond ordinances and Federal Aviation Administration (FAA) regulations.

The Port annually budgets resources to fund projects and programs identified in the Strategic Plan. Program expenses are allocated among divisions and departments involved in implementation of the program. Specifically, stormwater resources are allocated among the MID and Aviation divisions (PDX), Environmental Affairs Department, Information Technology (IT) Department, Legal Department, and Engineering Department. Expenditures include Port staff salary (including fringe costs), permit fees, contractor and consultant fees, stormwater

infrastructure costs, City of Portland stormwater fees, stormwater training and outreach materials.

The MID Division spent approximately \$1,073,000 in fiscal year 2008-09 on stormwater expenditures and estimates that expenditures for 2009-10 will be approximately \$1,178,000. PDX (aviation and deicing programs) spent approximately \$2,986,000 on stormwater related expenses in fiscal year 2008-09, and plans to spend approximately \$3,065,000 for fiscal year 2009-10. Stormwater expenditures for the Port's Engineering Department totaled approximately \$281,000 for fiscal year 2008-09, and plans to spend approximately \$301,000 in 2009-10. The Environmental Affairs Department spent approximately \$143,000 for stormwater related expenses in 2008-09 and projects that it will spend approximately \$156,000 in 2009-10. The total estimated 2008-09 stormwater expenditures by the Port were \$4,525,000 and the estimated total projected expenditures for 2009-10 are \$4,742,000.

Table 4-1. Summary of Port of Portland Stormwater Expenditures

Department	Estimated 2008-09 Stormwater Expenditures	Estimated 2009-10 Stormwater Expenditures
Marine and Industrial Development	\$1,072,820	\$1,177,395
Aviation (including deicing)	\$2,985,209	\$3,064,981
Engineering	\$281,200	\$301,200
IT	\$22,920	\$22,920
Legal	\$19,640	\$19,640
Environmental Affairs	\$142,325	\$155,325
Total	\$4,524,114	\$4,741,461

5.0 DEMONSTRATION OF CONTINUED LEGAL AUTHORITY TO IMPLEMENT THE PROGRAMS OUTLINED IN THE SWMP

The Port has authority to implement programs outlined in the SWMP through ordinance, permits, and contracts.

The Port has statutory authority to enact ordinances to regulate stormwater sewers that it owns, operates, maintains, or controls. The Port Commission adopted Ordinance No. 361 in 1992, which provides the Port with legal authority over persons in possession of land owned by the Port. Ordinance No. 361 prohibits such persons from making, causing, or allowing an illicit discharge into a storm sewer owned or operated by the Port. Section 4 of the Ordinance requires written permission from the Port before connection to a Port storm sewer. Section 5 of the Ordinance authorizes the Port to inspect the land and storm sewers for violations of the Ordinance or applicable law that governs the conveyance or disposal of stormwater. In addition, the Ordinance provides the Port with authority to control the contribution of pollutants to storm sewers owned or operated by the Port; the quality of stormwater discharged from the sites of industrial activity on land owned by the Port; and the discharge to storm sewers owned or operated by the Port of pollutants from spills, dumping, or the disposal of materials other than stormwater.

In addition to the Ordinance, the Port has legal authority to control contribution of pollutants to the municipal storm sewer through contracts with Port tenants. Lease agreements require the lessees to comply with the Port's MS4 permit. Through these regulatory and contractual mechanisms, the Port works with tenants and users of Port facilities to implement BMPs that will control the contribution of pollutants to Port storm sewers.

6.0 STORMWATER MONITORING

The monitoring requirements of the Port's MS4 permit have been divided into two components: program monitoring and environmental monitoring. Program and environmental monitoring activities are established in order to meet the following requirements from the MS4 permit:

- i) Determine the status of implementing the components of the SWMP;
- ii) Evaluate the effectiveness of BMPs for specific source controls;
- iii) Evaluate the source of specific pollutants;
- iv) Assess the chemical, biological, and physical effects of MS4 runoff on receiving waters;
- v) Characterize MS4 runoff discharges; and
- vi) Evaluate long-term trends in receiving water quality associated with storm water discharges.

A description of each monitoring effort is provided below.

6.1 Program Monitoring

The Port's program monitoring activities are described as performance measures in their most recent approved SWMP, dated May 1, 2006 and approved by DEQ on July 31, 2006. The performance measures are specific indicator metrics that help assess the relative effectiveness of BMPs. The performance measures associated with various Port BMPs are provided in the SWMP, Tables 7-1 through 7-5.

6.2 Environmental Monitoring

The Port conducts environmental monitoring activities for their MS4 permit through an IGA with the City. The Environmental Stormwater Monitoring Program, originally submitted to DEQ in 1998, defines the Port's approach to meeting the MS4 permit monitoring requirements. The IGA specifies the terms and conditions as to how the Port shares costs with the City for monitoring efforts including land use based monitoring, non-stormwater discharge monitoring, and BMP effectiveness monitoring.

6.3 Additional Stormwater Monitoring Activities

The Port collects and submits additional stormwater monitoring data to DEQ as required by the Port's various NPDES permits. Data collected for these permits is not included in the MS4 permit annual report but is available through DEQ upon request.

Stormwater sampling at PDX and Terminals 2 and 6 is required for general industrial stormwater permit compliance (1200-Z and 1200-COLS permits). Monitoring related to these industrial permits is not conducted to address a specific MS4 permit requirement and thus is not submitted

for compliance with the Port's MS4 permit; however, the monitoring provides useful data about stormwater discharge on Port industrial properties. Data resulting from the stormwater sampling has been and may continue to be useful for understanding water quality impacts from these different types of industrial land uses.

The Port submitted stormwater monitoring data to DEQ for the following industrial stormwater discharge permits:

- NPDES 1200-COLS Industrial Stormwater Discharge Permits, DEQ File No. 107220 (PDX)
- NPDES 1200-COLS Industrial Stormwater Discharge Permit, DEQ File No 111492 (Terminal 6)
- NPDES 1200-Z Industrial Stormwater Discharge Permit, DEQ File No. 103594 (Terminal 6)
- NPDES 1200-Z Industrial Stormwater Discharge Permit, DEQ File No. 114024 (Terminal 2)

7.0 ACCOMPLISHMENTS FOR PERMIT YEAR FOURTEEN (2008-09)

7.1 Introduction

This annual report content and format is based on the SWMP submitted to DEQ in May 2006 as part of the Interim Evaluation Report, required by Section B(2)(b) of the MS4 permit. The SWMP is structured into five major components. The first four components match the four major components of the MS4 permit (Schedule D(2)(c)(i through iv). Because public education and training activities meet a variety of permit requirements, BMPs addressing public education and training under the first four components have been grouped into a fifth component. The SWMP component and associated BMPs are listed below:

Component #1: Structural and Source Control BMPs to Reduce Pollutants from Commercial and Residential Areas:

- Implement a Stormwater System Cleaning and Maintenance Program.
- Implement a Street and Vehicle Maneuvering Area Cleaning and Maintenance Program.
- Limit Landscape Maintenance Activities Impact on Stormwater.

Component #2: BMPs to Detect and Remove Illicit Discharges and Improper Disposal into the Storm Sewer System:

- Implement a Water Line Flushing Procedure.
- Implement the Illicit Discharge Detection and Elimination Program.
- Implement a Spill Response Program for Port Operated Property.

Component #3: BMPs to Monitor and Control Pollutants from Industrial Facilities:

- Implement an Industrial Facility Inspection Program.

Component #4: BMPs to Reduce Pollutants in Stormwater Discharges from Construction Sites:

- The BMPs for this component have been grouped into the education BMPs under Component #5: Provide Erosion Prevention and Sediment Control Training for Construction Inspectors.

Component #5: Education, Coordination, and Public Involvement BMPs:

- Require Training and Licensing for Staff Conducting Pest Management Activities.
- Implement a Spill Response Training Program.
- Implement Education and Reporting Measures to Protect Stormwater Quality.
- Implement a Tenant Stormwater BMP Program.
- Provide Erosion Prevention and Sediment Control Training for Construction Inspectors.
- Coordinate with Other Governmental Organizations.

7.2 SWMP Implementation

The remainder of this annual report describes the Port's SWMP implementation during the 2008-09 fiscal year and is categorized according to each of the BMPs outlined in Section 7.1. Each permit component is listed below along with the associated BMPs. For each BMP, the implementation tasks and associated accomplishments are listed. BMP activities conducted by the Port during 2008-09 are listed under the appropriate implementation task when applicable. In some cases, the Port conducted activities that were applicable to the BMP, but did not necessarily fit with a specific implementation task. Those activities are listed separately. Performance measures outlined in the SWMP are also described under the relevant BMP.

7.2.1 Component #1: Structural and Source Control BMPs to Reduce Pollutants from Commercial and Residential Areas

BMP: Implement a Stormwater System Cleaning and Maintenance Program

BMP Implementation Tasks and Associated Activities

- 1) Prioritize areas for inspection and develop an inspection and maintenance schedule. Update inspection priorities annually. (Responsibility: Marine and Industrial Development [MID] Environmental, MID Properties Maintenance, Marine Facilities Maintenance [MFM])
 - MID Environmental and MFM staff utilized a maintenance matrix detailing all Port-managed marine terminal stormwater structures and related inspection schedules. Staff continues to conduct inspections and maintenance activities using the maintenance matrix.
 - MID Properties Maintenance staff continued to implement the stormwater maintenance schedule for Port-managed non-marine industrial park properties.
- 2) Develop and implement inspection, cleaning and maintenance documentation system. (Responsibility: MID Environmental, MID Properties Maintenance, MFM)
 - MID Environmental and MFM staff continued to improve on maintenance documentation as part of the Port's Environmental Management System (EMS). MFM staff work closely with the MID Environmental staff to ensure all maintenance efforts are

documented appropriately. Documentation is kept on file in the MID Environmental and MFM offices and made available to Environmental Affairs staff.

3) Inspect and maintain stormwater conveyance system components (pipes, catch basins) annually or more frequently as needed. (Responsibility: MID Environmental, MID Properties Maintenance, MFM, PDX Maintenance)

- MFM staff conducted annual catch basin cleaning at Port-managed properties at Marine Terminals 2, 4 and 6. Catch basin filters were also replaced in high traffic, heavy activity areas during the annual cleaning, in accordance with the results of the catch basin inspections and cleaning.
- All stormwater sewer pipes at Terminal 2 pipes were cleaned during 2008-2009 as part of the Superfund program.
- MID Environmental and MFM staff continued to implement a stormwater waste disposal program for the collection and disposal of wastes generated during catch basin cleaning and pavement sweeping at the Port-managed areas of the marine terminals. The sweeping and storm sewer maintenance debris are temporarily stored in two covered, watertight dumpsters (one for solid material and one for liquid material). As the volume reaches capacity in the dumpster designated for liquids, the water is decanted and disposed of via the sanitary sewer under a BES issued Batch Discharge Permit. The solids remaining in the dumpster are transferred to the adjacent solid material dumpster for storage and eventual off-site disposal.
- MID Properties Maintenance staff contracted catch basin cleaning and filter replacement at the following sites:
 - Swan Island McCarthy Park parking lot
 - Swan Island Navigation facility
 - Terminal 5 Entry Road
 - Properties Maintenance Shop at Rivergate Industrial Park

The Port sold the corporate office building in 2008 and now holds a lease for the property. As a result, stormwater maintenance including catch basin cleaning and filter replacement is under the responsibility of the new owner. The 2008 SWMP has been revised accordingly.

The Port sold the Swan Island ship yard parking lot in 2008; therefore, catch basin maintenance is no longer conducted by the Port. The catch basins were cleaned prior to the sale and future cleaning is the responsibility of the new owner. The 2008 SWMP has been revised accordingly.

- PDX Maintenance staff continuously conducted maintenance on various stormwater conveyance system components including catch basins throughout the airport.
- Note: this BMP implementation task has been proposed for revision in the 2008 SWMP due to the infeasibility of cleaning storm sewer system pipes annually and the changing responsibility of stormwater conveyance system cleaning at some former Port properties.

- 4) Identify catch basins on Port property that may not be included in the current maintenance program and incorporate these systems into the Port's program. (Responsibility: MID Properties Maintenance)
 - MID Properties Maintenance did not identify any stormwater system components that are not yet on the maintenance program at the industrial park properties.
- 5) Inspect, maintain and repair (if necessary) structural stormwater controls (i.e., sedimentation manholes, hydrodynamic devices, filters, ponds, vegetated swales and oil/water separators) annually or more frequently, as needed. (Responsibility: MID Environmental, MFM, MID Properties Maintenance)
 - MFM inspected stormwater structures at Terminal 2, Terminal 4 and Terminal 6 monthly in accordance with the MID Stormwater Maintenance Plan. A minimum of annual maintenance was conducted for all facilities. The following stormwater structures are inspected and maintained:
 - Three Downstream Defenders[®]
 - Twelve Oil/Water Separators
 - Four swales
 - Three StormFilters[®]
 - MID Environmental identified approximately 50 new catch basin locations for the MFM crew to install filter inserts in 2008-2009. During this period, the MFM crew installed 215 catch basin filter inserts at Terminal 6, which included the filters at these new locations. MFM also installed 12 catch basin inserts at Terminal 4.
 - PDX installed a new StormFilter[®] system and added it to the maintenance plan.
- 6) Conduct litter pickup and vegetation management activities to ensure adequate access to all natural stormwater system features (swales, ponds) as needed. Properly dispose of all debris. (Responsibility: MID Environmental, MFM, MID Properties Maintenance)
 - MID Properties Maintenance staff maintained landscaped areas within the industrial parks at Swan Island and Rivergate and at the marine terminals. Crews removed and disposed of vegetative debris, scrap metal, and garbage. Staff chipped and composted vegetative debris to create mulch and disposed of or recycled metal and garbage at appropriate facilities.
 - MID Properties Maintenance staff cleared vegetation around stormwater outfalls and associated stormwater conveyance system infrastructure on Port-owned industrial park properties to provide better access for inspections and illicit discharge monitoring.
- 7) Remove sediment build-up near pond inlet structures. (Responsibility: MID Environmental, MFM, MID Properties Maintenance)
 - No activities were required to be conducted during the 2008-09 fiscal year, as the Port does not manage ponds within its jurisdiction any longer. This BMP task has been revised in the proposed 2008 SWMP.
- 8) Continue to update the map of stormwater system features. (Responsibility: Environmental Affairs)

- Environmental Affairs and maintenance staff continued to coordinate with Engineering and IT staff in order to update the Port-wide stormwater drainage maps as changes were identified.
- The Port's IT staff completed a two-year major upgrade (in June 2009) to their GIS system, which allows for more sophisticated tracking of stormwater features among other features. Specifically, the upgraded system allows for the editing of infrastructural information in GIS instead of CAD, and therefore, the information can be maintained daily instead of developed annually with maps for operational use.
- During the last year, improvements to the Port's GIS inventory were made with respect to land use coverage and delineation of structural BMP drainage areas in order to complete the benchmarking exercise as part of the NPDES MS4 Permit Renewal Submittal.

BMP Performance Measures

- A total of 128 tons (256,000 pounds) of solids were collected at the marine terminals. Collected solids represents material collected as a result of both catch basin cleaning and street sweeping activities, as the material is combined and staged in the same location.
- A total of 137 tons (274,000 pounds) of solids were collected during stormwater conveyance system cleaning activities at PDX.

BMP: Implement a Street and Vehicle Maneuvering Area Cleaning and Maintenance Program

BMP Implementation Tasks and Associated Activities

- 1) Employ contract services to sweep the Port Center (Swan Island) parking lot annually. (Responsibility: MID Properties Maintenance)
 - MID Properties staff continued to employ contract services to conduct pavement sweeping every other week at the Swan Island Industrial Park McCarthy Park parking lot.
- 2) Sweep marine terminals annually. If additional sweeping is needed, coordination will occur between the appropriate parties. (Responsibility: MID Environmental, MFM)
 - MFM staff conducts pavement sweeping at Port-managed areas of Terminal 2, Terminal 4 and Terminal 6 annually. A total of 256,000 pounds of solids were recovered this past year as a result of both catch basin cleaning and street sweeping activities. The sweeping and catch basin debris was transferred to covered, watertight storage bins to prevent contact with stormwater runoff. The Port implements a sampling plan for this material, and based upon the test results, appropriately disposes of the debris.
- 3) Sweep Airport Way, Frontage Road and PDX employee parking lots twice per week. (Responsibility: PDX Maintenance)

- PDX maintenance staff conducted sweeping twice per week in the winter and once per week during the summer months at the following locations: Frontage Road; Airport Way; 82nd Avenue between Airport Way and Alderwood Avenue; and the PDX employee parking. Additionally, sweeping at various locations throughout the PDX airfield occurs daily.
- 4) Maintain and repair roadway and vehicle maneuvering areas to minimize pollutant impacts to stormwater as needed. (Responsibility: MFM, PDX Maintenance)
- PDX maintenance staff contracted efforts to remove runway rubber twice in 2008-09 using a machine that contains and recycles the water used in the cleaning of the runway surface, eliminating surface water runoff generated during the process.
 - PDX maintenance staff maintained indoor storage areas, equipment wash-bays, and debris unloading areas.
 - PDX maintenance staff has discontinued purchase of toluene-based paints in favor of water-based paints. Minimal amounts of toluene are still used to clean paint spraying equipment. As a result, the majority of PDX's existing toluene recovery system has been decommissioned with the exception of the stills which are used to manage toluene used as part of the cleaning of paint spraying equipment.
- 5) Track deicing activities in areas not applicable to the PDX Anti-icing/Deicing Permit. (Responsibility: MFM, MID Environmental, MID Properties Maintenance)
- MFM applied a total of 55,726 pounds of deicing materials on main roads and common use sidewalk areas at the marine terminals in 2008-09 (specifically from December 15, 2008 to February 1, 2009).
 - MID Properties Maintenance staff applied approximately 50 pounds of deicing materials at the MID Properties Maintenance shop and driveway in 2008-09.

BMP Performance Measures

- 1) Record volumes and/or weight of material removed due to sweeping activities.
- A total of 128 tons (256,000 pounds) of solids were collected at the marine terminals. Collected solids represents material collected as a result of both catch basin cleaning and street sweeping activities, as the material is combined and staged in the same location.
 - A total of 193 tons (386,000 pounds) of street sweeping solids were collected at PDX.

BMP: Limit Landscape Maintenance Activities Impact on Stormwater

BMP Implementation Tasks and Associated Activities

- 1) Apply pesticides and fertilizers, as needed, using an Integrated Pest Management (IPM) approach to minimize impacts to stormwater (Responsibility: MID Properties Maintenance, PDX Maintenance, MFM)

- MID Properties Maintenance staff continued to be responsible for the landscaping and maintenance of the Port's industrial parks, marine terminals, and mitigation sites. Staff continued to implement the IPM and Work Schedules Program for Port-owned mitigation sites. This program identifies problem plant species at each site, provides a profile for each species, recommends control methods, and outlines monitoring protocol and schedules.
 - MID Properties Maintenance staff provided Port maintenance staff and Port-contracted workers with the *Vegetation Management Plan*. The plan provides information on the appropriate herbicides and use of those herbicides to control particular invasive plant species, and it identifies the locations where specific herbicides can be applied.
 - MFM conducted weed control activities at marine parking areas, rail yards and specific vegetated areas at Marine Terminals 2, 4, and 6 on an as-needed basis.
 - PDX Maintenance staff, responsible for landscaping at PDX facilities, continued to implement BMPs aimed at improving stormwater quality at the airport, including the following:
 - Maintaining the integrity and function of bioswales by keeping them full with healthy, mature vegetation;
 - Limiting the amount of turf and shrub fertilizer that falls on hard surfaces (e.g., sidewalks, roads, parking lots) by using small fertilizer spreaders, and blowing unintentional applications to these areas back onto the target areas; and
 - Using slow-release nitrogen fertilizers to limit leaching into groundwater and runoff into surface waters.
 - Replacing non-native grass with native grass to reduce irrigation and runoff.
- 2) Update the *Program Description for Pesticide and Fertilizer Use on Port Property*, as needed (Responsibility: Environmental Affairs)
- This document was reviewed and did not require an update during the 2008-09 fiscal year.
- 3) Update the *Technical Guidance Document for Pesticides*, as needed (Responsibility: Environmental Affairs)
- This document was reviewed and did not require an update during the 2008-09 fiscal year. Material Safety Data Sheets (MSDS) are available for the products in use at the Port.
- 4) Maintain a list of pesticides and fertilizers used on Port property (Responsibility: Environmental Affairs)
- Environmental Affairs staff updated the list of pesticides used on Port property.

BMP Performance Measures

- 1) Track the quantity of pesticides and fertilizers purchased annually.
 - Table 7-1 lists the pesticide, herbicide, and/or fertilizer products and quantities purchased and/or used by each Port maintenance department in 2008-09.

Table 7-1. Port of Portland Pesticide, Herbicide, and Fertilizer Purchases and/or Use in 2008-09

MID Properties Maintenance Pesticide, Herbicide, and Fertilizer Purchased 2008-09

Product Name	Total amt	Unit
Simazine 4L	17.5	gal
Casovan	1500	lb
Pro Zap Pellets	12	lb
Kicker Adjuvant	5.0	gal
Barricade 4FL	1.0	gal
Ranger Pro	25.0	gal
Ultra Defoamit	6.0	qt
Embark 2S	1.0	gal
Kicker	10.0	gal
Garlon3A	5.0	gal
AdWat (R-11)	5.0	gal
Ultra Defoam-IT	6.0	qt
Round Up Pro Max	1.67	gal
Signal Marker	2.0	gal

MFM Pesticide, Herbicide and Fertilizer Used 2008-09

Product Name	Quantity	Unit
Kicker Fertilizer	4.0	gal
Oust	85.2	oz
Garlon3A	18.3	gal
Ranger Pro	27.1	gal
Rodeo	6.5	gal

PDX Maintenance Pesticide, Herbicide, and Fertilizer Used 2008-09

Product Name	Quantity	Unit
Krovar	168	lbs
Roundup	10.5	gal
Oust	96	oz
Escort	21	oz
Selgaurd	84	oz
No foam	10.5	oz

PDX Landscape Pesticide Used 2008-09

Product Name	Quantity	Unit
Roundup	5.0	gal
22-3-22 turf fertilizer w/80% urea formaldehyde	35,000	lbs

7.2.2 Component #2: BMPs to Detect and Remove Illicit Discharges and Improper Disposal into the Storm Sewer System

BMP: Implement a Water Line Flushing Procedure

BMP Implementation Tasks and Associated Activities

- 1) Implement a water line flushing procedure in accordance with appropriate management practices for the disposal of chlorinated water. (Responsibility: PDX Environmental, MID Environmental, Environmental Affairs, MFM)
 - An EMS work instruction was prepared for staff, which outlines the process for proper disposal of chlorinated water during water line flushing. The work instruction was distributed to MID Environmental and PDX Aviation environmental staff and implemented by the maintenance staff at Marine and PDX.

BMP: Implement the Illicit Discharge Detection and Elimination Program

BMP Implementation Tasks and Associated Activities

- 1) Implement the Illicit Discharge Detection and Elimination Program in accordance with the Port's *Illicit Discharge Detection and Elimination Procedure*. Follow outlined procedures for outfall inspections, sampling, investigation and documentation. (Responsibility: PDX Environmental, MID Environmental, Environmental Affairs)
 - PDX Environmental, Environmental Affairs, and MID Environmental staff continued to implement the Illicit Discharge Detection and Elimination Program. The program outlines the following activities:
 - Enforcement of Port Ordinance 361, authorizing Port staff to inspect tenant facilities, restrict connections to the MS4, and impose penalties to known violators;
 - Dry season illicit discharge inspections of Port-owned outfalls; and
 - Investigation of potential illicit discharges.
 - MID Environmental staff conducted illicit discharge inspections at 63 outfalls as part of the annual dry season illicit discharge inspections at Terminals 2, 4, 5 and 6 and at Rivergate and Swan Island Industrial parks. Two discharges were initially discovered, but based on further investigation of the drainage areas to the two outfalls, MID Environmental staff verified that the observed flow was not the result of an illicit discharge. Additionally, one potential illicit discharge was observed at a City of Portland outfall, and the City was immediately contacted.
 - PDX Environmental staff conducted annual dry season illicit discharge inspections at 14 Port-owned outfalls at PDX and PIC. No illicit discharges were discovered.

Additional Activities

- The Legal Department is working with PDX Environmental, Environmental Affairs, and Port Property Managers to develop an updated written procedure for enforcement of illicit discharges on Port property.

BMP Performance Measures

1) Document the number and types of illicit discharges discovered.

- MID Environmental staff inspected 63 outfalls as part of the annual dry season illicit discharge inspections at Terminals 2, 4, 5 and 6 and at Rivergate and Swan Island Industrial parks. Two discharges were discovered but upon further inspection were determined to not be the result of an illicit discharge. Additionally, one potential illicit discharge was observed at a City of Portland outfall, and the City was immediately contacted.
- PDX Environmental staff inspected 14 Port-owned outfalls as part of the annual dry season illicit discharge inspections. No illicit discharges were found.

BMP: Implement a Spill Response Program for Port Operated Property

BMP Implementation Tasks and Associated Activities

1) Update, formalize and implement the *Spill Response Procedure for Marine and Properties*. (Responsibility: MID Environmental)

- MID Environmental staff continued to implement the spill response procedure for Port-owned, non-aviation properties. Emergencies and spills are reported to the Marine Security Office who contacts the on-call MID Environmental Spill Response Coordinator. Procedures are posted throughout the marine terminals.
- MID Environmental staff maintain a database to track spills on non-aviation, Port-owned property. The database is currently being updated, and the full update is scheduled for completion in October 2009.
- MID Environmental staff conducted monthly inventories of all spill kits at Terminals 2 and 6 during this last fiscal year. Additionally, random inspections of spill kits occur when MID personnel are on site.
- MID Environmental staff continued to implement Spill Prevention Control and Countermeasures Plans for Terminal 6 and the Navigation Facility. A review of the T6 SPCC plan began this past summer, and an updated version of the plan should be complete in the fall of 2009.

2) Participate in the City's Regional Spill Committee.

- MID Environmental and Port Environmental Affairs staffs continue to be active members of the City of Portland's Regional Spill Committee and attend quarterly meetings.

3) Participate in the Clean Rivers Cooperative.

- The MID Department is no longer a member of the Clean Rivers Co-op. The Port opted to not participate in this group because as a public entity, the by-laws were incompatible with the Port's contracting rules. The Port continues to have 24-hour incident response capabilities provided by Port spill response staff and contracts with multiple on-call spill response vendors. No loss in functional capabilities will result from this change.

Additional Activities:

- Engineering continued to incorporate the construction specifications, *Environmental Practices for Construction*, into Port contracts. The specifications include measures for spill prevention and response.

BMP Performance Measures

1) Document the number of spills in which a spill response was conducted.

- MID Environmental staff responded to 36 reported spills during the 2008-09 fiscal year. MID Environmental staff maintained a log detailing the incidents and follow up activities.

7.2.3 Component #3: BMPs to Monitor and Control Pollutants from Industrial Facilities

BMP: Implement an Industrial Facility Inspection Program

BMP Implementation Tasks and Associated Activities

- 1) Update the inventory of facilities subject to the Superfund Amendment and Reauthorization Act (SARA) and priority industrial facilities annually. (Responsibility: Environmental Affairs)
 - Environmental Affairs and MID staff modified the priority industrial facility list with respect to identified facilities subject to SARA on Port-owned property. During the 2008-09 fiscal year, one facility was subject to SARA but was sold in the winter of 2008. Therefore, there are no facilities on Port property subject to SARA.
 - The priority industrial facility inventory (developed in 2007-08) was modified to account for the sale of the one former industrial facility subject to SARA. Six priority industrial facilities were inspected in 2008-09.
- 2) Conduct annual inspections of SARA facilities, with the exception of the Oregon Air National Guard facility, as the Port is not authorized to inspect this federal location. (Responsibility: MID Environmental, PDX Environmental, Environmental Affairs)
 - There are no facilities subject to SARA currently on Port property.

- 3) Conduct inspections of priority industrial facilities annually, or more frequently if needed. Inspections may occur in conjunction with the illicit discharge investigations, if warranted. Priority facilities are those identified and described under the BMP description. (Responsibility: MID Environmental, PDX Environmental, Environmental Affairs)
 - MID Environmental and MID Property Management staff conducted industrial facility inspections at six priority industrial facility inspections. The facilities include AWC – Honda, Hyundai, International Raw Materials (IRM), Toyota, SSA, and Cereal Foods.
 - PDX Environmental and Property Management staff conducted industrial facility inspections at twelve facilities at PDX.
- 4) Coordinate with tenant or Port property manager to identify appropriate control measures to minimize pollutant loading from priority industrial facilities. (Responsibility: MID Environmental, PDX Environmental, Environmental Affairs, MID Properties)
 - PDX Environmental sent follow-up letters and copies of the inspection reports to the priority industrial facilities following inspections. Minor housekeeping issues were identified and documented but no major issues were identified.

BMP Performance Measures

- 1) Document the number of SARA and priority industrial facility inspections conducted annually.
 - MID Environmental conducted industrial facility inspections at six priority industrial facilities on MID property. PDX Environmental conducted industrial facility inspections at twelve priority industrial facilities at PDX.

7.2.4 Component #5: Education, Coordination and Public Involvement BMPs

BMP: Require Training and Licensing for Staff Conducting Pest Management Activities

BMP Implementation Tasks and Associated Activities

- 1) Require all chemical applicators (contractors and Port employees) to obtain and maintain licenses issued by the Oregon Department of Agriculture. (Responsibility: PDX Maintenance, MFM, MID Properties Maintenance)
 - Six MID Properties Maintenance staff hold the Oregon Department of Agriculture pesticide applicator's license. Contractors hired by MID are required to hold the license. Annual training is required to maintain the license.
 - Four PDX general maintenance staff and four PDX landscape maintenance staff hold the Oregon Department of Agriculture pesticide applicator's license. One PDX landscape maintenance staff is currently applying for a license. Contractors hired by PDX are required to hold the license. Annual training is required to maintain the license.

BMP: Implement a Spill Response Training Program

BMP Implementation Tasks and Associated Activities

- 1) Require annual HAZWOPER training for designated operating area staff responsible for spill response and hazardous waste management (Responsibility: MID Environmental).
 - Eight MID Environmental staff participated in the eight hour HAZWOPER and Spill Incident Management Plan Refresher training in June 2009. During the Hazwoper training, the MID Spill Incident Management Plan and Port TRIP facility Spill Response Plan were also discussed.
- 2) Distribute updated emergency contact information and spill response procedures to employees responsible for responding to spills (Responsibility: MID Environmental).
 - There were no revisions to the Marine and Industrial Development Spill Incident Management Plans during fiscal year 2008-09. The spill reporting procedure is still posted throughout the marine terminals and staff offices.
- 3) Conduct general spill training annually for designated employees (Responsibility: MID Environmental).
 - MID Environmental staff conducted spill response training for designated spill response coordination staff. One training (July 2008) was focused on the spill and pager notification system, and one training (September 2008) was focused on spill response procedures.
 - MID Environmental staff conducted annual spill awareness training for designated staff at the following departments: MFM.

BMP: Implement Education and Reporting Measures to Protect Stormwater Quality

BMP Implementation Tasks and Associated Activities

- 1) Identify catch basins in public areas that do not have “Dump No Waste, Drains to Stream” decals and apply decals (MID Properties Maintenance, PDX Environmental, MFM).
 - PDX Maintenance staff applied approximately 300 catch basin decals at PDX throughout the PDX industrial areas.
- 2) Implement a public reporting program for potential illicit discharges by installing signs with notification information throughout Port property (Responsibility: Environmental Affairs, MID Property Maintenance, PDX Environmental).
 - This task was previously completed in the 2005-06 fiscal year. The signs continue to be maintained during 2008-09. The task has been revised in the proposed 2008 SWMP.

Additional Activities (Membership, Sponsorships, and Committee Participation)

- The Port is a financial supporter of the Regional Coalition for Clean Rivers and Streams. The Coalition is a group of agencies and municipalities in the Portland/Vancouver metro area dedicated to educating the public about the impact stormwater runoff pollution has on the health of our rivers and streams for people, fish and wildlife.
- As a member and financial sponsor of the Columbia Slough Watershed Council (CSWC), the Port continued to participate in implementation of the Columbia Slough Watershed Action Plan, which includes enhancement and restoration projects, water quality improvement projects, ecosystem educational programs, and public recreation opportunities. The Port sponsors several special outreach events each year to increase public involvement to improve the health of the watershed.
- The Port staffed and co-sponsored RiverFest, a community education and outreach event that focused on maintaining the health and improving water quality in the Willamette River.
- The Port was a financial co-sponsor of the following organizations/ conferences: Lower Columbia Estuary Partnership, Wetland Managers Wetland Association Conference, Oregon Trout, and Sustainable Northwest.

Additional Activities (Publications)

- The Port continued to publish *Port Currents*, a quarterly publication dedicated to informing the public about how Port projects, policies and news intersect with community and environmental issues.
- The Port continued to publish *Portside*, a publication distributed to stakeholders three times per year featuring news and information about airports, marine terminals, industrial parks, and environmental programs.
- The Port published their revised Stormwater Management Plan on their website as part of the MS4 NPDES Permit Renewal Submittal requirements.

Additional Activities (Staff Training and Education)

- Environmental Affairs staff attended the Association of Clean Water Agencies (ACWA) annual conference. Many sessions are dedicated to stormwater and water quality issues.
- Environmental Affairs, MID Environmental, and PDX Environmental staff attended the Environmental Law Education Center Stormwater Management Conferences. Sessions focused on stormwater BMPs, legal issues, monitoring and technology.
- Members of Environmental Affairs staff additionally attended the Advanced Sediment Conference and the Willamette River Conference.
- Members of MID Environmental staff additionally attended the following meetings/ conferences that pertained to stormwater: Northwest Environmental Conference, NEBC

Luncheon on Oregon's Regulatory Approach to Stormwater; Spill Response and Mitigation Training (Seminar conducted by U.S Coast Guard and Portland Fire Bureau); Phase 1 ESA Practices for Commercial Real Estate; Aquatic Toxicology Workshop; and Hazard Recognition for Construction, General Industry, and Other Workplaces.

- PDX Environmental staff presented annual stormwater training for PDX general maintenance, PDX landscape maintenance, general aviation maintenance and Fire Department staff. Training covered stormwater regulations and BMPs.
- MID Environmental staff presented annual stormwater training for MFM personnel. The training covered topics such as stormwater regulations/BMPs and spill prevention.
- The Port developed a flyer outlining the Port's 2008-09 Environmental Objectives and Targets and distributed to Port stakeholders. One of the annual environmental objectives is to minimize impacts to water quality.
- The Port developed and implemented an internal EMS training course for staff. The Port's EMS system allows for documentation and tracking of various stormwater management efforts conducted by all Port operating areas.
- The Port staffed an outreach table at the Better Living Show, a sustainable lifestyle fair at the Portland Expo Center in March 2009. Community education efforts included a demonstration and discussion of native planting activities and invasive species management.
- The Port provides tours to the public at the marine terminals and PDX. Such tours reference activities conducted and facilities constructed to manage stormwater.
- The Port participated in the Columbia Slough Regatta.

BMP Performance Measures

1) Document all public education efforts.

- Public education efforts are documented under each implementation task above.

BMP: Implement a Tenant Stormwater BMP Program

BMP Implementation Tasks and Associated Activities

1) Maintain an inventory of all tenants (Responsibility: Environmental Affairs).

- Environmental Affairs staff maintained a current inventory of Port tenants.
- Environmental Affairs staff maintains an inventory of tenants holding NPDES permits issued by DEQ.

- 2) Implement a tenant BMP program and provide guidance documentation to the tenants (Responsibility: MID Environmental, PDX Environmental).
 - PDX Environmental staff continued to implement the PDX Tenant BMP Program. The program has evolved from formal meetings to more hands-on efforts in providing technical assistance and inspections to tenants. The number of tenant inspections has increased (Industrial Facility Inspection Program) during 2008-09 and the PDX Tenant program will continue to focus more on inspections and technical assistance in the next fiscal year.
 - PDX Environmental continued to coordinate the annual Aviation Tenant Environmental Excellence Awards for exemplary environmental efforts by tenants at port-operated airports.
 - MID Environmental staff conducts annual inspections of tenant facilities and provides technical assistance to tenants in regard to stormwater issues at their facilities. This fiscal year, MID Environmental assisted three tenants with stormwater related issues including spill prevention and recovery plans and addressing individual NPDES permit benchmark exceedances.
- 3) Coordinate stormwater BMP lease language between MID, Aviation (PDX), and Properties and Development Services (MID Environmental, PDX Environmental, Environmental Affairs).
 - Legal, Property Management, PDX Environmental, MID Environmental, and Environmental Affairs staff worked together to develop updated stormwater template lease language. Lease language is one mechanism to impose legal authority over discharges to the Port's MS4. Having a consistent approach helps streamline administration and improve environmental performance.
 - MID Environmental and PDX Environmental staff continued to be actively involved with the property managers in the development of specific environmental language for tenant leases.
- 4) Maintain an active property management role by conducting inspections of property vacated by tenants to ensure proper disposal of waste materials. Coordinate with the City of Portland to isolate, characterize and dispose of the waste if deemed toxic (Responsibility: MID Environmental, MID Properties, PDX Environmental, Environmental Affairs).
 - In addition to the industrial inspection program, PDX Environmental staff participated in six tenant entry or exit inspections at PDX. Corrective actions were taken to remedy housekeeping issues.
 - In addition to the implementation of the industrial inspection program and annual tenant inspections, MID Environmental conducted two tenant exit inspections.

BMP: Provide Erosion Prevention and Sediment Control Training for Construction Inspectors

BMP Implementation Tasks and Associated Activities

- 1) Provide annual erosion prevention and sediment control training for all Port construction inspectors (PDX Environmental).
 - PDX Environmental staff conducted annual erosion prevention and sediment control training for the Port's Engineering Department construction inspectors. Training addresses BMPs for Port construction projects.

Additional Activities:

- The Engineering Department requires Port contractors to implement the *Required Environment Practices for Construction* specifications in all construction projects. The specifications are designed to protect stormwater from contamination and have language addressing the Port's NPDES 1200-CA Stormwater Discharge Permit, File No. 101018. The Port's contract specifications for construction projects include requirements to prepare an erosion and sediment control plan (ESCP). The ESCPs are reviewed and approved by Port engineering and environmental staff. The provisions of the approved ESCP are ensured through specific enforcement of Port contracts. Port and City inspectors regularly inspect Port projects for conformance with the ESCP and jurisdictional requirements.
- MID Environmental continued to contract a part-time staff member to conduct erosion and sediment control inspections for new development at Portland International Center. The inspector works closely with the contractor to ensure proper implementation of construction stormwater BMPs.
- MID Environmental staff conducted erosion control inspections of construction sites and worked closely with construction inspectors to ensure the proper installation and maintenance of erosion control measures.

BMP: Coordinate with Other Governmental Organizations

BMP Implementation Tasks and Associated Activities


- 1) Participate with agencies and groups on water quality issues (Responsibility: Environmental Affairs).
 - Port of Portland Environmental Affairs coordinated with the City of Portland and Multnomah County MS4 staff to discuss co-permittee operations and responsibilities as they relate to MS4 permit management. The Port is also an active participant in the Phase 1 subcommittee of the ACWA Stormwater Committee.
 - The Port continued to implement the IGA with the Multnomah County Drainage District (MCDD) to maintain flow, stormwater ditches, pipes, and sumps within PIC and portions of PDX.

- The Port continued to implement the IGA with the City Bureau of Environmental Services to coordinate responsibilities under the MS4 permit programs.
 - The Port remained actively involved with the following organizations with projects aimed at improving source and non-point source control practices:
 - Columbia Slough Watershed Council
 - Columbia Slough Watershed Council Outreach Committee
 - Oregon Association of Clean Water Agencies
 - Willamette River Restoration Initiative
 - City of Portland Office of Healthy Working Rivers
 - City of Portland Watershed Science Advisory Committee
 - City of Portland Regional Spill Committee
 - Smith and Bybee Lakes Wetlands Management Committee
 - Lower Columbia River Fish Recovery Stakeholders Team
 - Maritime Fire & Safety Association
 - The Port continued to coordinate with the following public agencies on stormwater-related projects and programs:
 - U.S. Army Corps of Engineers
 - Oregon Department of State Lands
 - Oregon Department of Environmental Quality
 - Multnomah County Drainage District
 - Multnomah County Vector Control
 - City of Portland Bureau of Environmental Services
 - City of Portland Bureau of Planning and Sustainability
 - City of Portland Water Bureau
 - Metro
- 2) Review and renew the IGA with the City of Portland to combine efforts related to water quality monitoring and analysis (Responsibility: Environmental Affairs).
- No modifications to the IGA (updated in 2007) were necessary.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Issued in accordance with the provisions of
ORS 449.083 (Recodified as 468.740)
and
Federal Water Pollution Control Act Amendments of 1972,
P.L. 92-500, Oct. 18, 1972 (33 U.S.C. § 1251 et. seq.).
(Hereinafter referred to as the "Federal Act").

ISSUED TO: Port of Portland P. O. Box 3529 Portland, Oregon 97208	REFERENCE INFORMATION File Number: <u>70596</u> Appl. No.: <u> </u> Received <u>6/4/73</u> <u>OR-002294-2</u>
PLANT SITE: Ship Repair Yard North end of Swan Island Portland, Oregon	Major Basin: <u>Willamette</u> Minor Basin: <u> </u> Receiving Stream: <u>Willamette River</u> River Mile: <u>8.3</u> County: <u>Multnomah</u>
ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY  Kessler R. Cannon Director	FEB 12 1975 Date

PERMITTED ACTIVITIES

Until such time as this permit expires or is modified or revoked, the Port of Portland Ship Repair Yard is herewith permitted to:

- Discharge boiler blowdown water to the Willamette River.
- Discharge uncontaminated cooling water from operation of the air compressors to the Willamette River.
- Discharge uncontaminated storm water to the Willamette River.
- Discharge treated ballast waters to the City of Portland sewerage system.

All of the above activities must be carried out in conformance with the requirements, limitations and conditions which follow.

All other waste discharges are prohibited.

PERMIT CONDITIONS

SPECIAL CONDITIONS

- S1. The permittee shall discharge all treated ballast waters to the City of Portland sewerage system in accordance with all rules and regulations of the City of Portland.
- S2. Other than boiler blowdown water and uncontaminated cooling water from operation of the air compressors, no other liquid wastes and no solid wastes shall be discharged into or placed such that they drain into any storm drain system, or into the Willamette River from any operations at the ship repair yard.
- S3. Prior to refloating any marine vessel in any drydock, the drydock shall be cleaned and, as much as practicable, all waste solids and waste liquids removed.
- S4. Immediately after any marine vessel leaves any drydock, if floating materials are visible, the permittee shall skim the drydock area to remove, as much as practicable, the floating materials.
- S5. Overspray from painting shall be controlled to the maximum practicable extent to minimize any discharge of paint to public waters.
- S6. All sandblasting operations shall be conducted to minimize as much as practicable any discharge of solids into the water, including but not limited to pointing the sandblast nozzle downward and away from the water whenever possible.
- S7. The permittee shall have its debris skimmer effectively skim the water area around the ship repair yard work area as often as necessary to remove floating materials. When floating material is being generated, the areas shall be skimmed immediately after cessation of each activity but not less than daily during continuous, multi-shift operations.
- S8. The air bubble barrier shall be operated at all times to prevent any loose debris or other foreign material from entering the main channel of the Willamette River. Debris accumulated at the barrier shall be removed as frequently as practicable to prevent a buildup of material along the barrier.
- S9. At any time either of the two storm drain lines which carry the permitted liquid waste discharges has a concentration of oil in excess of 10 milligrams per liter (mg/l), that waste shall be immediately diverted to the ship bilge water waste treatment system.
- S10. Prior to constructing or modifying any waste water control facilities, detailed plans and specifications shall be approved in writing to the Department.

- S11. The quantity and quality of effluent discharged directly or indirectly to the Willamette River shall be limited not to exceed as follows:

Parameter

Discharge 001 (Air compressors cooling water discharged through a 12" storm drain just west of drydock No. 3)

Flow	76 gpm
Temperature	105° F.

Discharge 002 (Compressed air condenser water and boiler blowdown water discharged through a 12" storm drain adjacent to berth No. 302)

Flow	70 gpm
Temperature	105° F.

Other Parameters

pH	No liquid discharge shall be outside the range 6.0-9.0
Oil	No liquid discharge shall contain in excess of 10 mg/l of oil (ether soluble)

- S12. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-045 except in the following defined mixing zone:

The allowable mixing zones shall not exceed that portion of the Willamette River within a radius of 100 feet from the points of discharge.

- S13. No petroleum-base products in excess of the limits in Condition S11 of other substances which might cause the Water Quality Standards of the State of Oregon to be violated shall be discharged or otherwise allowed to reach any of the waters of the state.
- S14. Sanitary wastes shall be disposed of to the City of Portland municipal sewerage system.
- S15. Unless approved otherwise in writing by the Department the permittee shall observe and inspect all waste handling, treatment and disposal facilities and the receiving stream above and below each point of discharge at least daily to insure compliance with the conditions of this permit. A written record of all such observations shall be maintained at the plant and shall be made available to the Department of Environmental Quality staff for inspection and review upon request.

- S16. The permittee shall monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the wastes discharged. A record of all such data shall be maintained and submitted to the Department of Environmental Quality at the end of each calendar month. Unless otherwise agreed to in writing by the Department of Environmental Quality, data collected and submitted shall include but not necessarily be limited to the following parameters and minimum frequencies:

<u>Parameter</u>	<u>Minimum Frequency</u>
Both Discharges	
Flow	Daily
Temperature	Weekly grab sample
pH	Weekly grab sample
Oil and grease	Weekly grab sample

- S17. Within 30 days of the issuance of this permit the permittee shall submit a detailed description of the sampling procedures used, sample analysis techniques and exact location of sampling stations.
- S18. The permittee shall prepare, submit to the Department and implement a suggested spill prevention and contingency plan for the facility covered by this permit within 90 days of the date of its issuance. Such plan shall include at least the following information and procedures relative to the prevention and handling of spills and unplanned discharges of oil, chemicals and other hazardous substances:
- A description of the reporting system which will be used to alert responsible facility management and appropriate legal authorities;
 - A description of the facilities which prevent, contain or treat spills and unplanned discharges;
 - A list of all oil and hazardous materials used, processed or stored at the facility which may be spilled and could conceivably be discharged to state waters;
 - A brief description of recent spills and changes made to prevent their occurrence; and
 - An implementation schedule for additional facilities which may be required to prevent the spillage of oil, chemicals and other hazardous materials and subsequent discharge to state waters.
- S19. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to insure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
- S20. The permittee shall, during all times of disposal, provide personnel whose primary responsibilities are to assure the continuous performance of the disposal system within the limitations of this permit.

GENERAL CONDITIONS

- G1. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.
- G2. Monitoring procedures:
- a. Monitoring shall begin on the first day of the month following issuance of this permit.
 - b. Monitoring reports shall be submitted by the 15th day of each following month.
 - c. Monitoring reports shall be submitted on approved NPDES report forms.
 - d. All records of monitoring activities and results, including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records, shall be retained by the permittee for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director.
 - e. The permittee shall record for each measurement or sample taken pursuant to the requirements of this permit the following information: (1) the date, exact place and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used and (5) the results of all required analyses.
 - f. Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.
 - g. All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department, conform to the latest edition of the following references:
 - 1) American Public Health Association, Standard Methods for the Examination of Water and Wastewaters (13th ed. 1971).
 - 2) American Society for Testing and Materials, A.S.T.M. Standards, Part 23, Water, Atmospheric Analysis (1970).
 - 3) Environmental Protection Agency, Water Quality Office, Analytical Control Laboratory, Methods for Chemical Analysis of Water and Wastes (April, 1971).
- G3. All waste solids, including dredgings and sludges, shall be utilized or disposed of in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state and such that health hazards and nuisance conditions are not created.

PERMIT CONDITIONS

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- G4. The diversion or bypass of any discharge from facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the Department in writing of each such diversion or bypass in accordance with the procedure specified in Condition G12.
- G5. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- G6. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, a new application must be submitted together with the necessary reports, plans and specifications for the proposed changes. No change shall be made until plans have been approved and a new permit or permit modification has been issued.
- G7. After notice and opportunity for a hearing this permit may be modified, suspended or revoked in whole or in part during its term for cause including but not limited to the following:
- a. Violation of any terms or conditions of this permit or any applicable rule, standard, or order of the Commission;
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - c. A change in the condition of the receiving waters or any other condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- G8. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.
- G9. The permittee shall, at all reasonable times, allow authorized representatives of the Department of Environmental Quality:
- a. To enter upon the permittee's premises where an effluent source or disposal system is located or in which any records are required to be kept under the terms and conditions of this permit;

State of Oregon
Department of Environmental Quality
PERMIT CONDITIONS

Permit Number: 1901-J

Expiration Date: 6/30/79

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- b. To have access to and copy any records required to be kept under the terms and conditions of this permit;
 - c. To inspect any monitoring equipment or monitoring method required by this permit; or
 - d. To sample any discharge of pollutants.
- G10. The permittee shall maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
- G11. The Department of Environmental Quality, its officers, agents and employees shall not sustain any liability on account of the issuance of this permit or on account of the construction or maintenance of facilities because of this permit.
- G12. In the event the permittee is unable to comply with all of the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error or negligence, or any other cause such as an act of nature, the permittee shall:
- a. Immediately take action to stop, contain and clean up the unauthorized discharges and correct the problem.
 - b. Immediately notify the Department of Environmental Quality so that an investigation can be made to evaluate the impact and the corrective actions taken and determine additional action that must be taken.
 - c. Submit a detailed written report describing the breakdown, the actual quantity and quality of resulting waste discharges, corrective action taken, steps taken to prevent a recurrence and any other pertinent information.

Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

Permit Number: 1901-J
Expiration Date: 6/30/79
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Issued in accordance with the provisions of
ORS 449.083 (Recodified as 468.740)
and

Federal Water Pollution Control Act Amendments of 1972,
P.L. 92-500, Oct. 18, 1972 (33 U.S.C. § 1251 et seq.)

ISSUED TO:

Port of Portland
Swan Island Ship Repair Yard
P. O. Box 3529
Portland, Oregon 97208

REFERENCE INFORMATION

File Numbers: 70596
Appl. No. QR-002294-2 Received: 7/7/76
Major Bn: Columbia Minor Bn: Willamette
Receiving Stream: Willamette
River Miles: 6.5
County: Multnomah

ADDENDUM NO. 1

Waste Discharge Permit Number 1901-J is modified as follows:

- a) Under Permitted Activities, item d shall be changed to read:
 - d) Discharge treated ballast waters to the Willamette River.
- b) Condition S1 shall be changed to read:

S1. The permittee shall discharge all treated ballast waters (discharge 003) to the Willamette River in accordance with the limitations set forth in Condition S11.
- c) Condition S2 shall be deleted.
- d) Condition S11 shall incorporate:

Discharge 003 (treated ballast water)

<u>Parameter</u>	<u>Limitation</u>
Flow	Not to exceed 200 gpm
Oil and Grease	Not to exceed 10 mg/l
pH	Shall not be outside the range 6.0 - 9.0
TSS	Shall not exceed: 30 mg/l monthly average 50 mg/l daily maximum

State of Oregon
Department of Environmental Quality

Permit Number: 1901-J
Expiration Date: 6/30/79
Page 2 of 2

PERMIT CONDITIONS

Port of Portland, Swan Island Ship Repair Yard

- e) The following shall be added to Condition Sl6:

Discharge 003

<u>Parameter</u>	<u>Frequency</u>
Flow	Monthly
Oil & Grease	Per batch discharge
pH	Per batch discharge
TSS	Per batch discharge

This addendum shall be attached to and made part of Waste Discharge Permit Number 1901-J.

DEPARTMENT OF ENVIRONMENTAL QUALITY

By William H. Young

Title Director

Date JUL 20 1977

Permit Number: 3086J
Expiration Date: 9/30/84
File Number: 70596
Page 1 of 8 Pages

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

WASTE DISCHARGE PERMIT

Department of Environmental Quality
522 Southwest Fifth Avenue, Portland, OR
Mailing Address: Box 1760, Portland, OR 97207
Telephone: (503) 229-5696

Issued pursuant to ORS 468.740 and The Federal Clean Water Act

ISSUED TO:

Port of Portland
Swan Island Ship Repair Yard
Box 3529
Portland, OR 97208

SOURCES COVERED BY THIS PERMIT:

<u>Type of Waste</u>	<u>Outfall Number</u>	<u>Outfall Location</u>
Compressor cooling water	001	west of dry dock No. 3
Condensor water, boiler blowdown	002	adjacent to berth No. 302
treated ballast water	003	R.M. 6.5

PLANT TYPE AND LOCATION:

Ship Repair Yard
Swan Island, Portland

RECEIVING STREAM INFORMATION:

Major Basin: Willamette
Minor Basin:
Receiving Stream: Willamette
County: Multnomah
Applicable Standards: OAR 340-41-445

Issued in response to Application Number OR-102294-2 received May 11, 1979.

Michael Downs for
William H. Young, Director

JAN 15 1980
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a waste water collection, treatment, control and disposal system and discharge adequately treated waste waters in conformance with requirements, limitations, and conditions set forth in attached schedules as follows:

	<u>Page</u>
Schedule A - Waste Discharge Limitations not to be Exceeded....	2
Schedule B - Minimum Monitoring and Reporting Requirements.....	3
Schedule C - Compliance Conditions and Schedules.....	4
Schedule D - Special Conditions.....	5
General Conditions.....	6

All other direct and indirect waste discharges to public waters are prohibited.

This permit does not relieve the permittee from responsibility for compliance with other applicable Federal, state, or local laws, rules, or standards.

NWMAR119046

SCHEDULE A

1. Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

Outfall Number 001 (cooling water discharge just west of drydock No. 3)

<u>Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (76 gpm) 414 M ³ /d
Temperature	Shall not exceed (105°F) 40.5°C
pH	Shall not be outside range of 6.0 to 9.0
Oil & Grease	Shall not exceed 10 mg/l

Outfall Number 002 (condensor water and boiler blowdown discharged adjacent to berth No. 302)

<u>Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (70 gpm) 381.5 M ³ /d
Temperature	Shall not exceed (105°F) 40.5°C
pH	Shall not be outside range of 6.0 to 9.0
Oil & Grease	Shall not exceed 10 mg/l

Outfall Number 003 (treated ballast water)

<u>Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed 700 gpm 1090 M ³ /d
Oil & Grease	Shall not exceed 10 mg/l
pH	Shall not be outside range of 6.0 to 9.0
TSS	Shall not exceed a 30 mg/l monthly average and a 50 mg/l daily maximum

2. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:

The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 30 meters from the points of discharge.

SCHEDULE B

Minimum Monitoring and Reporting Requirements (unless otherwise approved
in writing by the Department)

Outfall Number (001, 002, & 003)

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Estimate
Temperature	Weekly	Grab
pH	Weekly	Grab
Oil & Grease	Weekly	Grab

Reporting Procedures

Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

SCHEDULE C

Compliance Conditions and Schedules

1. The permittee shall perform a field survey in accordance with the following time schedule to demonstrate compliance with the water quality standards outside the defined mixing zone:

The study shall be completed and submitted to the Department for review by no later than February 1, 1981.

SCHEDULE D

Special Conditions

1. Prior to refloating any marine vessel in any drydock, the drydock shall be cleaned and, as much as practicable, all waste solids and waste liquids removed.
2. Immediately after any marine vessel leaves any drydock, if floating materials are visible, the permittee shall skim the drydock area to remove, as much as practicable, the floating materials.
3. The permittee shall have its debris skimmer effectively skim the water area around the ship repair yard work area as often as necessary to remove floating materials. When floating material is being generated, the areas shall be skimmed immediately after cessation of each activity but not less than daily during continuous, multi-shift operations.
4. The air bubble barrier shall be operated at all times to prevent any loose debris or other foreign material from entering the main channel of the Willamette River. Debris accumulated at the barrier shall be removed as frequently as practicable to prevent a buildup of material along the barrier.
5. Sanitary wastes shall be disposed of to the city of Portland municipal sewage system.
6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
7. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment, and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.

Permit Number: 3086J
Expiration Date: 9/30/84
File Number: 70596
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GENERAL CONDITIONS

- G1. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.
- G2. Monitoring records:
- a. All records of monitoring activities and results, including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records, shall be retained by the permittee for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director.
 - b. The permittee shall record for each measurement or sample taken pursuant to the requirements of this permit the following information: (1) the date, exact place, and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used; and (5) the results of all required analyses.
 - c. Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.
 - d. All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants as specified in 40 CFR, Part 136.
- G3. All waste solids, including dredgings and sludges, shall be utilized or disposed of in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state, and such that health hazards and nuisance conditions are not created.
- G4. The diversion or bypass of any discharge from facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage, or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the Department in writing of each such diversion or bypass in accordance with the procedure specified in Condition G12.
- G5. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws, or regulations.

- G6. Whenever a facility expansion, production increase, or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, a new application must be submitted together with the necessary reports, plans, and specifications for the proposed changes. No change shall be made until plans have been approved and a new permit or permit modification has been issued.
- G7. After notice and opportunity for a hearing this permit may be modified, suspended, or revoked in whole or in part during its term for cause including but not limited to the following:
- a. Violation of any terms or conditions of this permit or any applicable rule, standard, or order of the Commission;
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - c. A change in the condition of the receiving waters or any other condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- G8. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.
- G9. The permittee shall, at all reasonable times, allow authorized representatives of the Department of Environmental Quality:
- a. To enter upon the permittee's premises where an effluent source or disposal system is located or in which any records are required to be kept under the terms and conditions of this permit;
 - b. To have access to and copy any records required to be kept under the terms and conditions of this permit;
 - c. To inspect any monitoring equipment or monitoring method required by this permit; or
 - d. To sample any discharge of pollutants.
- G10. The permittee shall maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
- G11. The Department of Environmental Quality, its officers, agents, of employees shall not sustain any liability on account of the issuance of this permit or on account of the construction or maintenance of facilities because of this permit.

G12. In the event the permittee is unable to comply with all the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error or negligence, or any other cause such as an act of nature, the permittee shall:

- a. Immediately take action to stop, contain, and clean up the unauthorized discharges and correct the problem.
- b. Immediately notify the Department of Environmental Quality so that an investigation can be made to evaluate the impact and the corrective actions taken and determine additional action that must be taken.
- c. Submit a detailed written report describing the breakdown, the actual quantity and quality of resulting waste discharges, corrective action taken, steps taken to prevent a recurrence, and any other pertinent information.

Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

G13. Definitions of terms and abbreviations used in this permit:

- a. BOD means five-day biochemical oxygen demand.
- b. TSS means total suspended solids.
- c. mg/l means milligrams per liter.
- d. kg means kilograms.
- e. m³/d means cubic meters per day.
- f. MGD means million gallons per day.
- g. Composite sample means a combination of samples collected, generally at equal intervals over a 24-hour period, and apportioned according to the volume of flow at the time of sampling.
- h. FC means fecal coliform bacteria.
- i. Averages for BOD, TSS, and Chemical parameters based on arithmetic mean of samples taken.
- j. Average Coliform or Fecal Coliform is based on geometric mean of samples taken.

Permit No. 3086 J
File Number: 70596
Application No.: OR-102294-2
Page 1 of 1 Pages

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

Department of Environmental Quality
522 SW Fifth, Portland, OR 97204
Mailing Address: Box 1760, Portland, OR 97207
Telephone: (503) 229-5696

Issued in accordance with the provisions of ORS 449.083
(Recodified as 468.740)
and
Federal Water Pollution Control Act Amendments of 1972,
P.L. 92-500, Oct. 18, 1972 (33 U.S.C.)

ISSUED TO:

Port of Portland
Swan Island Ship Repair Yard
P.O. Box 3529
Portland, Oregon 97208

REFERENCE INFORMATION:

Received: 5/11/79
Major Bn: Columbia
Minor Bn: Willamette
Receiving Stream: Willamette
River Mile: 6.5
County: Multnomah

ISSUED BY DEPARTMENT OF ENVIRONMENTAL QUALITY

William H. Young
WILLIAM H. YOUNG, Director

AUG 7 1981

Dated

ADDENDUM NO. 1

Waste Discharge Permit No. 3086-J is modified as follows: Condition 4 of Schedule D is changed to read as follows:

4. "Floating containment booms shall be placed around all ships while transferring fuel in the shipyard. Permanent oil containment booms shall be installed on the inside of the mot outboard pier pilings and around all dry dock areas.

This addendum shall be attached to and become part of NPDES Permit No. 3086 J.

P70596 (1) 1

NWMAR119054

Permit Number: 3862-J
Expiration Date: 7-31-89
File Number: 70596
Page 1 of 3 Pages

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

WASTE DISCHARGE PERMIT

Department of Environmental Quality
522 Southwest Fifth Avenue, Portland, OR
Mailing Address: Box 1760, Portland, OR 97207
Telephone: (503) 229-5696

Issued pursuant to ORS 468.740 and The Federal Clean Water Act

ISSUED TO:

Port of Portland
Swan Island Ship Repair Yard
Box 3529
Portland, OR 97208

SOURCES COVERED BY THIS PERMIT:

<u>Type of Waste</u>	<u>Outfall Number</u>	<u>Outfall Location</u>
Compressor	001	West of
Cooling Water		Dry Dock #3
Condensor Water	002	Adjacent to
Boiler Blowdown		Berth No. 302
Treated Ballast Water	003	R.M. 6.5

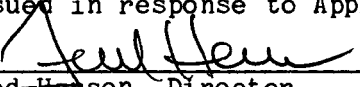
PLANT TYPE AND LOCATION:

Ship Repair Yard
Swan Island, Portland

RECEIVING STREAM INFORMATION:

Major Basin: Willamette
Minor Basin: - -
Receiving Stream: Willamette
County: Multnomah
Applicable
Standards: OAR-340-41-445

Issued in response to Application No. OR-202294-2 received June 11, 1984.


Fred Hansen, Director

JUL 26 1984

Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a waste water collection, treatment, control and disposal system and discharge to public waters adequately treated waste waters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	<u>Page</u>
Schedule A - Waste Discharge Limitations not to be Exceeded..	2
Schedule B - Minimum Monitoring and Reporting Requirements...	3
Schedule C - Compliance Conditions and Schedules.....	-
Schedule D - Special Conditions.....	3
General Conditions.....	Attached

Each other direct and indirect waste discharge to public waters is prohibited.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

SCHEDULE A

1. Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

Outfall Number 001 (Cooling water discharge just west of dry dock #3)

<u>Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (76 gpm) 0.110 MGD
Temperature	Shall not exceed 105°F
pH	Shall not be outside range of 6.0 to 9.0
Oil and Grease	Shall not exceed 10 mg/l

Outfall Number 002 (Condensor water and boiler blowdown discharged adjacent to berth No. 302)

<u>Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (70 gpm) 0.101 MGD
Temperature	Shall not exceed 105 °F
pH	Shall not be outside range of 6.0 to 9.0
Oil and Grease	Shall not exceed 10 mg/l

Outfall number 003 (Treated ballast water)

<u>Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (700 gpm) 0.288 MGD
Oil and Grease	Shall not exceed 10 mg/l
pH	Shall not be outside range of 6.0 to 9.0
Total Suspended Solids (TSS)	Shall not exceed a 30 mg/l monthly average and a 50 mg/l daily maximum

2. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:

The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 100 feet from the points of discharge.

SCHEDULE B

Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing by the Department)

Outfall Number 001, 002, and 003

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Estimate
Temperature	Weekly	Grab
pH	Weekly	Grab
Oil and Grease	Weekly	Grab
TSS (003)	Weekly	Grab

Reporting Procedures

Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

SCHEDULE D

Special Conditions

1. Prior to refloating any marine vessel in any dry dock, the dry dock shall be cleaned and, as much as practicable, all waste solids and waste liquid removed.
2. Immediately after any marine vessel leaves any dry dock, if floating materials are visible, the permittee shall skim the dry dock area to remove, as much as practicable, the floating materials.
3. The permittee shall have its debris skimmer effectively skim the water area around the ship repair yard work area as often as necessary to remove floating materials. When floating material is being generated, the areas shall be skimmed immediately after cessation of each activity, but not less than daily during continuous, multi-ship operations.
4. Floating containment booms shall be placed around all ships while transferring fuel in the ship yard. Permanent oil containment booms shall be installed on the inside of the most out board pier pilings and around all dry dock areas.
5. Sanitary wastes shall be disposed of to the City of Portland municipal sewage system.
6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
7. An Environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment, and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.

NPDES GENERAL CONDITIONS

- G1. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.
- G2. Monitoring records:
- a. All records of monitoring activities and results, including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records, shall be retained by the permittee for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director.
 - b. The permittee shall record for each measurement or sample taken pursuant to the requirements of this permit the following information: (1) the date, exact place, and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used; and (5) the results of all required analyses.
 - c. Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.
 - d. All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants as specified in 40 CFR, Part 136.
- G3. All waste solids, including dredgings and sludges, shall be utilized or disposed of in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state, and such that health hazards and nuisance conditions are not created.
- G4. The diversion or bypass of any discharge from facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage, or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the Department in writing of each such diversion or bypass in accordance with the procedure specified in Condition G13.
- G5. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws, or regulations.

- G6. Whenever a facility expansion, production increase, or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, a new application must be submitted together with the necessary reports, plans, and specifications for the proposed changes. No change shall be made until plans have been approved and a new permit or permit modification has been issued.
- G7. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including but not limited to the following:
- a. Violation of any terms or conditions of this permit or any applicable rule, standard, or order of the Commission;
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - c. A change in the condition of the receiving waters or any other condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- G8. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.
- G9. The permittee shall, at all reasonable times, allow authorized representatives of the Department of Environmental Quality:
- a. To enter upon the permittee's premises where an effluent source or disposal system is located or in which any records are required to be kept under the terms and conditions of this permit;
 - b. To have access to and copy any records required to be kept under the terms and conditions of this permit;
 - c. To inspect any monitoring equipment or monitoring method required by this permit; or
 - d. To sample any discharge of pollutants.
- G10. The permittee shall maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
- G11. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.
- G12. The Department of Environmental Quality, its officers, agents, or employees shall not sustain any liability on account of the issuance of this permit or on account of the construction or maintenance of facilities because of this permit.

G13. In the event the permittee is unable to comply with all the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error or negligence, or any other cause such as an act of nature, the permittee shall:

- a. Immediately take action to stop, contain, and clean up the unauthorized discharges and correct the problem.
- b. Immediately notify the Department of Environmental Quality so that an investigation can be made to evaluate the impact and the corrective actions taken and determine additional action that must be taken.
- c. Submit a detailed written report describing the breakdown, the actual quantity and quality of resulting waste discharges, corrective action taken, steps taken to prevent a recurrence, and any other pertinent information.

Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

G14. If the permittee wishes to continue an activity regulated by the permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

G15. All applications, reports, or information submitted to the Director shall be signed and certified in accordance with 40 CFR 144.32.

G16. This permit is not transferable except as provided in OAR 340-45-045.

G17. Definitions of terms and abbreviations used in this permit:

- a. BOD means five-day biochemical oxygen demand.
- b. TSS means total suspended solids.
- c. mg/l means milligrams per liter.
- d. kg means kilograms.
- e. m³/d means cubic meters per day.
- f. MGD means million gallons per day.
- g. Composite sample means a combination of samples collected, generally at equal intervals over a 24-hour period, and apportioned according to the volume of flow at the time of sampling.
- h. FC means fecal coliform bacteria.
- i. Averages for BOD, TSS, and Chemical parameters based on arithmetic mean of samples taken.
- j. Average Coliform or Fecal Coliform is based on geometric mean of samples taken.

PERMIT EVALUATION REPORT

for NPDES permit for

Port of Portland

File No. 70596

The Port of Portland owns and operates a ship repair yard at Swan Island in Portland, Oregon. Liquid wastes consist of compressor cooling water discharging at about 76 gallons per minute at 105°F to the Willamette River via a storm drain. Approximately 70 gallons per minute of combined cooling water and boiler blowdown discharge to the Swan Island basin with a temperature of approximately 105°F. Treated ballast water is discharged to either the city of Portland sewerage system or the Willamette River. This discharge has a maximum rate of 700 gallons per minute with an oil and grease content of less than 10 mg/l.

WPS/mb

6/15/84

Permit Number: 3862-J
Expiration Date: 7/31/89
File Number: 70596
Page 1 of 2 Pages

MODIFICATION

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT**

Department of Environmental Quality
522 Southwest Fifth Avenue, Portland, OR
Mailing Address: Box 1760, Portland, OR 97207
Telephone: (503) 229-5696

Issued pursuant to ORS 468.740 and The Federal Clean Water Act

ISSUED TO:

Port of Portland
Swan Island Ship Repair Yard
Box 3529
Portland, OR 97208

SOURCES COVERED BY THIS PERMIT:

<u>Type of Waste</u>	<u>Outfall Number</u>	<u>Outfall Location</u>
Compressor Cooling Water	001	West of Dry Dock #3
Condenser Water & Boiler Blowdown	002	Adjacently Berth #302
Treated Ballast Water	003	R.M. 6.5

PLANT TYPE AND LOCATION:

Ship Repair Yard
Swan Island, Portland

RECEIVING SYSTEM INFORMATION:

Major Basin: Willamette
Minor Basin: -
Receiving Stream: Willamette
County: Multnomah
Applicable Standards: OAR 340-41-445

ADDENDUM NO. 1

Permit No. 3862-J has been modified as follows:

In Schedule D, special condition 1 is modified to read:

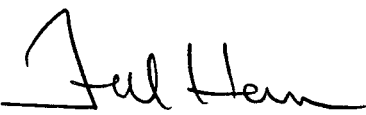
1. The dry docks shall be cleaned in accordance with the following:
 - a. All dry dock drains shall be sealed or thoroughly cleaned prior to each vessel rotation* to prevent accumulated material from discharging into the river. Similarly all sand blast sand within 30 feet of the dry dock ends and sallyports shall be removed prior to each vessel rotation.

*Vessel rotation means to submerge the dry dock to remove vessel, place next vessel on dry dock and refloat dry dock.

Permit Number: 3862-J
Expiration Date: 7/31/89
File Number: 70596
Page 2 of 2 Pages

- b. Sand blast sand shall not be allowed to remain on any dry dock for more than four vessel rotations. Prior to the fifth vessel rotation, all sand blasting sand shall be removed and the dry dock shall be thoroughly cleaned as determined by the port dock master.
- c. The permittee shall maintain a log of each dry dock operation. The permittee shall document the occurrence of each vessel sandblasting procedure and dry dock cleaning operation. The log shall be a part of the annual monitoring report.
- d. The permittee shall annually sample the discharge water from the dry dock system and have it analyzed by a qualified laboratory. Analysis will include suspended solids as well as total metals for antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, silver, thallium, tin and zinc. The results of this annual analysis shall be part of the annual dry dock environmental report.

This addendum shall be attached to and made part of Permit No. 3662-J.



Fred Hansen, Director

FEB 06 1987
Date

P70596.M (h)

NWMAR119063

Permit Evaluation
Port of Portland
Swan Island Ship Repair Yard

File No. 70596

Multnomah County

The Port of Portland operates a ship repair yard at the north end of Swan Island. The ship repair yard was constructed during WWII to build ships for the war effort. The ship repair yard consists of four dry docks and has 9,100 feet of repair wharf and berthing space.

The ship repair yard has four sources of water pollution. The first is the water that comes off the dry dock as it is raised. This water can be contaminated with sand, paint chips and oil that falls from the ship when the dry dock is raised. The other source of pollution at the site is a discharge from a ballast water treatment system. The ballast water that is removed from the ships that are repaired is run through an oil/water separator to remove any oil, stored in a tank, sampled, and then discharged to the river. A third discharge is compressor cooling water, and a fourth source is condenser water and boiler blow down water.

The existing permit for this site requires that the dry dock be cleaned each time it is submerged. The Port has not been doing this and in a letter dated April 8, 1986 requested that their permit be modified to specify less frequent cleanings of the dry dock. After taking some samples and observing the dry dock before and after it was submerged, the Department proposes on modifying the Port of Portland's permit to read as follows: " All dry dock drains shall be sealed or thoroughly cleaned prior to each vessel rotation to prevent accumulative material from discharging into the river. Similarly, all sandblast sand within 30 feet of the dry dock ends and sally ports shall be removed prior to each vessel rotation. The permit also requires that the dry dock be cleaned completely prior to the 5th vessel coming on the dry dock. An additional requirement is that the Port sample the water coming off the dry dock annually.

The site was inspected on January 17, 1986 and was found to be in compliance with all permit conditions except the cleaning of the dry dock. During the past year, the monitoring reports have indicated that the Port has been in compliance with all of its permit limits.

CRC:y
RY3733

Expiration Date: 10/31/94
Permit Number: 100628
File Number: 70596
Page 1 of 4 Pages

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT**

Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, OR 97204
Telephone: (503) 229-5696

Issued pursuant to ORS 468.740 and the Federal Clean Water Act

ISSUED TO:

Port of Portland
Swan Island Ship Repair Yard
Box 3529
Portland, OR 97208

SOURCES COVERED BY THIS PERMIT:

<u>Type of Waste</u>	<u>Outfall Number</u>	<u>Outfall Location</u>
Backup Compressor Cooling Water	001	West of Dry Dock #3
Backup Condensor Water, Boiler Blowdown	002	Adjacent to Berth No. 302
Treated Ballast Water	003	R.M. 6.5

PLANT TYPE AND LOCATION:

Ship Repair Yard
Swan Island, Portland

RECEIVING STREAM INFORMATION:

Basin: Willamette
Sub-Basin: --
Stream: Willamette
Hydro Code: 22--WILL 8.0
County: Multnomah

EPA REFERENCE NO: ORO02294-2

Issued in response to Application No. 998646 received 8/1/89.

This permit is issued based on the land use findings in the permit record.


Lydia R. Taylor, Administrator
Water Quality Division

DEC 15 1989
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	<u>Page</u>
Schedule A - Waste Discharge Limitations not to be Exceeded..	2
Schedule B - Minimum Monitoring and Reporting Requirements...	3
Schedule C - Compliance Conditions and Schedules.....	-
Schedule D - Special Conditions.....	3-4
General Conditions.....	Attached

Each other direct and indirect waste discharge to public waters is prohibited.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

SCHEDULE A

1. Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

Outfall Number 001 (Cooling water discharge just west of dry dock #3):

<u>Other Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (76 gpm) 0.110 MGD
Temperature	Shall not exceed 105°F
pH	Shall not be outside range of 6.0 to 9.0
Oil and Grease	Shall not exceed 10 mg/l

Outfall Number 002 (Condensor water and boiler blowdown discharged adjacent to berth No. 302):

<u>Other Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (70 gpm) 0.101 MGD
Temperature	Shall not exceed 105°F
pH	Shall not be outside range of 6.0 to 9.0
Oil and Grease	Shall not exceed 10 mg/l

Outfall Number 003 (Treated ballast water):

<u>Other Parameters</u>	<u>Limitations</u>
Flow	Shall not exceed (700 gpm) 0.288 MGD
Oil and Grease	Shall not exceed 10 mg/l
pH	Shall not be outside range of 6.0 to 9.0
Total Suspended Solids (TSS)	Shall not exceed 30 mg/l monthly average and a 50 mg/l daily maximum

2. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:

The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 100 feet from the points of discharge.

SCHEDULE B

Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing by the Department)

Outfall Number 001, 002, and 003

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Estimate
Temperature (001, 002 when in operation)	Weekly	Grab
pH	Weekly	Grab
Oil and Grease	Weekly	Grab
TSS (003)	Weekly	Grab

Reporting Procedures

Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

SCHEDULE D

Special Conditions

1. The dry docks shall be cleaned in accordance with the following:
 - a. All dry dock drains shall be sealed or thoroughly cleaned prior to each vessel rotation* to prevent accumulated material from discharging into the river. Similarly all sand blast sand within 30 feet of the dry dock ends and sallyports shall be removed prior to each vessel rotation.
 - b. Sand blast sand shall not be allowed to remain on any dry dock for more than four vessel rotations. Prior to the fifth vessel rotation, all sand blasting sand shall be removed and the dry dock shall be thoroughly cleaned as determined by the port dock master.
 - c. The permittee shall maintain a log of each dry dock operation. The permittee shall document the occurrence of each vessel sandblasting procedure and dry dock cleaning operation. The log shall be a part of the annual monitoring report.

* Vessel rotation means to submerge the dry dock to remove vessel, place next vessel on dry dock and refloat dry dock.

- d. The permittee shall annually sample the discharge water from the dry dock system and have it analyzed by a qualified laboratory. Analysis will include suspended solids as well as total metals for antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, mercury, nickel, selenium, silver, thallium, tin, and zinc. The results of this annual analysis shall be part of the annual dry dock environmental report.
2. Immediately after any marine vessel leaves any dry dock, if floating materials are visible, the permittee shall skim the dry dock area to remove, as much as practicable, the floating materials.
3. The permittee shall have its debris skimmer effectively skim the water area around the ship repair yard work area as often as necessary to remove floating materials. When floating material is being generated, the areas shall be skimmed immediately after cessation of each activity, but not less than daily during continuous, multi-ship operations.
4. Floating containment booms shall be placed around all ships while transferring fuel in the ship yard. Permanent oil containment booms shall be installed on the inside of the most out board pier pilings and around all dry dock areas.
5. Sanitary wastes shall be disposed of the City of Portland municipal sewage system.
6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
7. An Environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment, and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.

NPDES
GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468.720 and is grounds for enforcement action; for permit termination; suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Oregon Law (ORS 468.990) classifies a willful or negligent violation of the terms of a permit or failure to get a permit as a misdemeanor and a person convicted thereof shall be punishable by a fine of not more than \$25,000 or by imprisonment for not more than one year, or by both. Each day of violation constitutes a separate offense.

In addition to the criminal penalties specified above, Oregon Law (ORS 468.140) also allows the Director to impose civil penalties up to \$10,000 per day for violation of the terms or conditions of a permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application should be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, or terminated for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit, rule, or statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any violation of federal, state or local laws or regulations.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means diversion of waste streams from any portion of the conveyance system or treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary pumping, conveyance, or treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under paragraph c of this section.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects, when the Director determines that it will meet the three conditions listed above in paragraph b(1) of this section.

c. Notice and request for bypass.

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section D, Paragraph D-5 (24-hour notice).

- d. Bypass not exceeding limitations.

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than + 10% from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be postmarked by the 14th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for coliform and fecal coliform bacteria which shall be averaged based on a geometric or log mean.

8. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, or report of application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge of pollutants.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

The following shall be included as information which must be reported within 24 hours:

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit.
- b. Any upset which exceeds any effluent limitation in the permit.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Section D, Paragraphs D-4 and D-5, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D-5.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports

State law provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$1,000 per violation, or by imprisonment for not more than six months per violation, or by both.

SECTION E. DEFINITIONS AND ACRONYMS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids (non-filterable residue).
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.
4. MGD means million gallons per day.
5. Composite sample means a combination of samples collected, generally at equal intervals over a 24-hour period, and apportioned according to the volume of the flow at the time of the sampling.
6. FC means fecal coliform bacteria.

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT RENEWAL EVALUATION REPORT**

Prepared by:
Andree Pollock
Northwest Region
15 September 1989

Permittee: Port of Portland
Facility Name: Swan Island Ship Repair Yard
Address: P.O. Box 3529
Portland, Oregon 97208

Application No: 998646
Existing Permit No: 3862-J

RECEIVED
SEP 27 1989

Facility Description

Water Quality Division
Dept. of Environmental Quality

The Swan Island Ship Repair Yard is managed by the Port of Portland. Facilities are leased by contractors who perform various ship repair duties including cleaning and painting of hulls. Work is conducted on the ships while they are in the drydocks or tied up at berths. There are currently three drydocks and thirteen berths.

The permitted sources are compressor cooling water, boiler blowdown condenser water, and treated ballast water.

The four permitted compressors have been replaced by newer models that do not require permits. The Port maintains the old compressors for back up. They will be repermited for this purpose although the Port plans to decommission them in the near future.

The permitted boiler has also been replaced by newer models that do not require permits. It is also used as an emergency backup. The boiler and the compressors have not been used since 1986. The compliance (sampling) point for the boiler and the compressors is at the outfall.

The ballast water facility is currently in use. Ballast water is pumped into a settling tank and through a oil skimmer. Then the water is processed by heating and skimming additional oil. Finally the water goes through an API separator and then into holding tanks. When the tanks are full, the water is sampled through sample ports on the sides of the holding tanks. If the water meets the requirements of the permit it is discharged to the Willamette River. Otherwise it is discharged into the sanitary sewer. The oil recovered from the skimming and treatment processes is stored in holding tanks. Periodically the product is tested and sold to recyclers. Any emulsified material

and material from the settling tanks is taken to a sanitary landfill for disposal.

In addition to the permitted sources, the drydocks are monitored to ensure that sand blast doesn't enter the river or effect water quality. Discharge water from the drydock system (from submergence) is sampled annually for suspended solids and metals.

Containment booms are maintained around the berths and the docked ships to contain any incidental spills.

Modifications to the Facility

New compressors and boilers have been installed which do no result in discharge of water. The old ones are now used for emergency backup.

Compliance With Previous Permit

The facility was last inspected on 9-13-89 and was found to be in compliance with the requirements of the permit. All reporting requirements have been met.

A NOV was issued on January 19, 1988 for an oil slick that originated from the tanker Maryland which was in a dry dock that was being flooded to lower it into the water. Containment boom is now used when ships are being loaded onto and taken off of the drydocks.

Two complaints have been received since 1987 concerning water quality. The first was 10-29-87. The complainant reported the shoveling of sand blast sand into the river. The Port responded to the complaint and found no evidence of sand being shoveled into the river.

The second complaint concerned no boom around ships on 7-20-89. This is contrary to Port policy. The Port contacted the contractors to advise them on the policy.

Permit Changes

Wording has been changed to reflect change in compressor and boiler use (as emergency backup).

No other changes are recommended since no change in the source of the water or change in the treatment processes has occurred.

Recommendations

The facility is believed to be in compliance and the permitted discharges are not expected to have any adverse environmental impacts. The few complaints and Department concerns have been dealt with quickly and favorably. Issuance of the proposed permit is recommended.

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT

Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR
Telephone: (503) 229-5696

Issued pursuant to ORS 468.740 and The Federal Clean Water Act

ISSUED TO:

ISSUED 8/19/93 GEN12L Multnomah/NWR
File No. 108017-70596 ORR20-0258

See ltr dated 3-2-94
Port of Portland and Tenants (attached)
Portland Ship Repair Yard
PO Box 3529
Portland OR 97208

Re: 5555 N Channel Avenue, Portland OR 97217

SOURCES COVERED BY THIS PERMIT:

Light industrial activities associated with Standard Industrial Classification (SIC) Codes 34; 35; 36; 37; 38; and 39; including fabricated metals products; equipment manufacturing; and ship and boat building and repair activities; not otherwise covered by an NPDES permit.

Lydia Taylor
Lydia Taylor, Administrator

SEP 24 1991
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct water pollution control facilities and to discharge storm water to public waters in accordance with a storm water pollution control plan which has been prepared by the permittee and any other limitations specified in this permit. All discharges shall be in accordance with the attached schedules:

	Page
Schedule A - Controls and Limitations for Discharge.....	2-5
Schedule B - Minimum Monitoring and Reporting Requirements..	6
Schedule C - Compliance Conditions and Schedules.....	7
Schedule D - Special Conditions.....	8
General Conditions.....	Attached

Each other direct and indirect waste discharge to public waters is prohibited unless covered by another NPDES permit.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

SCHEDULE A

Controls and Limitations for Storm Water Discharges

1. The Permittee shall prepare and implement a **Storm Water Pollution Control Plan (SWPCP)**. For facilities which employ 10 or more people, the SWPCP shall be prepared by or reviewed and stamped by a registered engineer or architect. The SWPCP shall include at least the following items:
 - a. **Site Description** Each plan shall, at a minimum, provide the following:
 - (1) A description of the nature of the industrial activities conducted at the site, including a description of "significant materials" (see Definitions) that are treated, stored or disposed of in a manner to allow exposure to storm water; and the methods of treatment, storage or disposal.
 - (2) A general location map showing the location of the site in relation to major transportation routes, surface waters and other relevant features.
 - (3) A site map indicating: drainage patterns, each drainage and discharge structure; an outline of the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each discharge point; areas used for outdoor manufacturing, storage or disposal of significant materials; each existing structural control measure for reducing pollutants in storm water runoff; materials loading and access areas; hazardous waste storage or disposal facilities; location of wells (including waste injection wells, seepage pits, dry wells, and etc.), springs, wetlands and other surface water bodies.
 - (4) Estimates of the amount of impervious surface area (including paved areas and building roofs) relative to the total area drained by each storm water outfall.
 - (5) For each area of the site which generates storm water associated with site activities and where a reasonable potential exists for contributing significant amounts of pollutants to storm water runoff, identify the potential pollutants which could be present in storm water discharge.
 - (6) The names of the receiving water(s), or if the discharge is to a municipal separate storm sewer, the name of the municipal operator of the storm sewer and the ultimate receiving waters.
 - (7) Identify the discharge outfalls and the point or points where storm water monitoring will occur as required by this permit.

- b. Controls Each operator covered by this permit shall develop a description of controls appropriate for the site and a time line for implementing such controls. The following minimum components shall be addressed along with a schedule for implementation:
- (1) Storm Water Management - The plan shall contain a narrative description of the materials and storm water management practices employed or scheduled for employment, to minimize contact of significant materials with storm water runoff; structural and non-structural control measures to reduce pollutants in storm water runoff; treatment (if any) and ultimate disposal of solid or fluid wastes other than by surface discharge. In developing the plan the permittee shall consider but not be limited to the following management practices:
 - A. Containment - All hazardous chemicals shall be stored within berms or other secondary containment devices to prevent leaks and spills from entering storm water runoff.
 - B. Oil & Grease Separation - Oil/water separators, booms, skimmers or other methods should be employed to minimize oil contaminated storm water discharge.
 - C. Debris & Sediment Control - Screens, booms, sediment ponds or other methods should be employed to reduce debris and sediment in storm water discharge.
 - D. Waste Chemical Disposal - Waste chemicals such as antifreeze, degreasers, used oils, etc. shall be recycled or disposed of in an approved manner and in a way which prevents them from entering storm water discharges.
 - E. Storm Water Diversion - Wherever possible, storm water should be diverted away from materials manufacturing, storage and other areas of potential storm water contamination.
 - F. Covered Storage or Manufacturing Areas - Wherever practicable, fueling operations, materials manufacturing and storage areas should be covered to prevent contact with storm water.
 - (2) Spill Prevention and Response Procedures - Areas where potential spills of significant materials can impact storm water runoff and their associated drainage points shall be clearly identified. Methods to prevent spills along with cleanup and notification procedures shall be identified in the plan and made available to the appropriate personnel. The required cleanup equipment must be on site or readily available.

- (3) Preventive Maintenance - A preventive maintenance program should be implemented to insure the effective operation of materials management facilities, structural and non-structural control facilities, and any treatment facilities used to comply with the requirements of this permit. The preventive maintenance program should include the following:
- A. Areas where potential spills of significant materials could impact storm water runoff, control structures, and any treatment facilities should be inspected monthly during the rainfall season.
 - B. A regular program of cleaning and repairing storm water control structures, treatment facilities, and materials handling and storage facilities should be conducted throughout the rainfall season.
- (4) Employee Education - An employee awareness program should inform personnel of the components and goals of the SWPCP, and address spill response procedures, good housekeeping and materials management practices.
- (5) Record Keeping and Internal Reporting Procedures - Incidents of spills or leaks of significant materials which could impact storm water runoff, along with corrective actions, surface water discharge (if any), and other relevant information should be included in the plant records. Inspection and maintenance activities such as cleaning and repairing storm water control and treatment facilities should also be documented and recorded.
- (6) Annual Plan Review - A full plan review should be made by the permittee annually, prior to the onset of the rainfall season. The plan review should include a complete site inspection of all areas where potential spills of significant materials can impact storm water runoff. The SWPCP should be updated as necessary.
2. The Storm Water Pollution Control Plan shall include procedures for meeting any Oregon Administrative Rules (OARs) for storm water control specific to the applicable river basin. These procedures should include a schedule of steps and key milestone dates for implementing monitoring activities, materials management practices, and SWPCP plan components not already in place at the time the permit is issued. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

3. Storm water carrying pollutants regulated by this permit shall not be allowed to discharge to seepage ponds, seepage pits, dry wells, injection wells, or any other on-site disposal facilities if discharge to surface waters is possible. If discharge to surface waters is not possible and on-site disposal methods are used, the storm water discharge limitations and monitoring requirements of this permit shall still apply, in addition to the limitations and restrictions found in OAR 340-44-050, Waste Disposal for Surface Drainage and OAR 340, Division 40, Groundwater Quality Protection.
4. Facilities engaged in sand blasting or scraping ship or boat hulls shall collect sand blasting and scraping residues and dispose of them in an approved manner which will preclude them from entering waters of the State either directly or in conjunction with storm water runoff.
5. **Specific Storm Water Discharge Limitations**
(These limitations apply to each point source discharge.)

<u>Parameters</u>	<u>Limitations</u>
Oil and Grease	Shall not exceed 10 mg/L
pH	Shall be between 6 and 9
Toxicity	No discharge of toxic chemicals in "toxic concentrations"* permitted

* Toxic concentrations is defined in the definitions, page 7 of attached General Conditions.

6. Allowable Mixing Zone - Notwithstanding the effluent limitations in this permit, no wastes shall be discharged and no activities shall be conducted which will violate applicable water quality standards as adopted in OAR 340, Division 41, except within a mixing zone in the receiving stream of a size which would provide a 10:1 dilution of the storm water discharged.
7. Storm Water Only - This permit regulates the discharge of storm water only. It does not authorize the discharge of process wastewaters, cooling waters, or any other wastewaters associated with the facility. Other discharges must be addressed in a separate NPDES permit.

SCHEDULE B

Minimum Monitoring and Reporting Requirements

(unless otherwise approved in writing by the Department)

1. **Parameters** - The permittee shall make visual observations and analyze grab samples of all storm water point source discharges for the following parameters:
 - A. **Primary Parameters:**
 - i. Color and/or foam (visual observation)
 - ii. Oil & Grease Sheen (visual observation)*
 - iii. pH
 - iv. Oil & Grease (mg/L)
 - v. TOC (mg/L)
 - vi. COD (mg/L)
 - vii. Metals **
 - viii. Total Suspended Solids (mg/L)

* Whenever a visible oil sheen is detected in a storm water discharge during a required monthly visual observation, it shall be sampled for Oil & Grease.

** Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, and Zinc.
 - B. **Other Parameters:**
 - i. Any pollutant limited or requiring monitoring in the facility's existing NPDES or WPCF permit, except for biomonitoring and flow.
 - ii. Any parameter for which the receiving stream is water quality limited, if the facility discharges storm water to a water quality limited stream with established Total Maximum Daily Loads (TMDL).
2. **Frequency of Monitoring** - Sampling for compliance with this section shall be conducted two times per year, with samples being collected at least 60 days apart. One of the samples shall be collected during the month in the fall when runoff first occurs. Visual observations of surface drainage areas shall be made monthly, during those months when at least one storm event produces runoff.
3. **Records Retention and/or Reporting** - Permittees are required to tabulate the data and submit it to the appropriate DEQ Regional Office by July 1 of each year. All records shall be retained by the permittee for a period of at least 5 years.
4. **Representative Sampling** - All sampling shall be representative of the discharge.

Permit Number: 1200-L
Page 7 of 8 Pages

SCHEDULE C

Compliance Conditions and Schedules (unless otherwise approved in writing by the Department)

1. Within 180 days of receiving this permit, the permittee shall complete a Storm Water Pollution Control Plan (SWPCP) as required by Schedule A, Condition 1.
2. The permittee shall be in compliance with the SWPCP and the effluent limitations in this permit within 360 days of the receiving this permit.
3. The permittee is expected to meet the compliance dates which have been established in this schedule. Either prior to or no later than 14 days following any lapsed compliance date, the permittee shall submit to the Department a notice of compliance or noncompliance with the established schedule. The Department may revise a schedule of compliance if good and valid cause over which the permittee has little or no control has been determined.
4. For new facilities, the SWPCP shall be prepared and implemented prior to start up of the facility.

SCHEDULE D

Special Conditions

1. **Waste Load Allocation** - If storm water monitoring indicates that a pollutant parameter, for which a stream is water quality limited, is discharging to a water quality limited stream in significant quantities, the permit may be reopened and a waste load allocation for the pollutant added.
2. **Additional Limitations or Monitoring Required** - If storm water monitoring indicates that certain pollutants are being discharged in quantities which may be a threat to the water quality of the receiving stream, the permit may be reopened and additional effluent limits and/or monitoring requirements added.
3. **Releases in Excess of Reportable Quantities**. This permit does not relieve the permittee of the reporting requirements of 40 CFR 117 and 40 CFR 302. The discharge of hazardous substances in the storm water discharge(s) from a facility shall be minimized in accordance with the applicable storm water pollution control plan for the facility required by this permit, and in no case, during any 24-hour period, shall the discharge(s) contain a hazardous substance equal to or in excess of reporting quantities.
4. **Disposition of SWPCP** - The Storm Water Pollution Control Plan, required by Schedule A, Condition 1, shall be kept at the site and made available to the Department upon request.
5. **Reporting to Municipality** - Any permitted facility discharging to a municipal storm sewer shall provide the municipality with a copy of the monitoring report required by Schedule B. A copy of the SWPCP shall also be provided the municipality upon request.

GEN\WC8976 (4-6-92)

STORM WATER NPDES PERMIT GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Oregon Revised Statutes (ORS 468.720) and is grounds for enforcement action; for permit termination; suspension or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Oregon Law (ORS 468.990) classifies a willful or negligent violation of the terms of a permit or failure to get a permit as a misdemeanor and a person convicted thereof shall be punishable by a fine of not more than \$25,000. or by imprisonment for not more than one year, or by both. Each day of violation constitutes a separate offense.

In addition to the criminal penalties specified above, Oregon Law (ORS 468.140) also allows the Director to impose civil penalties up to \$10,000. per day for violation of the terms or conditions of a permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment and human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Permit Actions

The Department may revoke a general permit as it applies to any person and require such person to apply for and obtain an individual NPDES permit if:

- a. The covered source or activity is a significant contributor of pollution or creates other environmental problems;
- b. The permittee is not in compliance with the terms and conditions of this general permit; or
- c. Conditions or standards have changed so that the source or activity no longer qualifies for a general permit.

5. General Permit Coverage

- a. Any permittee not wishing to be covered or limited by this general permit may make application for an individual NPDES permit in accordance with NPDES procedures in OAR 340-45-030.
- b. This general permit does not cover activities or discharges covered by an individual NPDES permit until the individual permit has expired or been canceled. Any person

conducting an activity covered by an individual permit but which could be covered by this general permit may request that the individual permit be canceled.

- c. All persons desiring to be covered by this general permit must register with the Department on forms provided by the Department. Registration applications for this general permit shall be sent to:

**Department of Environmental Quality
Water Quality Division
811 SW 6th Avenue
Portland OR 97204**

NOTE: Applicable permit fees must accompany the application.

6. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

8. Plan Approval

Plans and specifications for pollution control facilities shall be submitted to DEQ for review and approval prior to construction, in accordance with Oregon Administrative Rules, Chapter 340, Division 52.

SECTION B. OPERATION & MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit.

2. Duty to Halt or Reduce Activity

Upon reduction, loss, or failure of a storm water treatment or control facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control all discharges until the facility is restored or an alternative method of treatment is provided.

3. Bypass of Treatment Facilities

Bypassing of treatment facilities is generally prohibited.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering public waters, creating a nuisance, or creating a health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and/or the Storm Water Pollution Control Plan, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Department.

2. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR, part 136, unless other test procedures have been specified in this permit.

3. Penalties of Tampering

The Clean Water Act Provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000. per violation, or by imprisonment for not more than 6 months per violation, or by both.

4. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

5. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for coliform and fecal coliform bacteria which shall be averaged based on a geometric or log mean.

6. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records, of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 years from the date of the sample, measurement, or report of application. This period may be extended by request of the Department at any time.

7. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;

e. The following shall be included as information which must be reported within 24 hours:

- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit.
- (2) Any upset which exceeds any effluent limitation in the permit.

4. **Other Noncompliance**

The permittee shall report all instances of noncompliance not reported under Section D, Paragraph D-3, at the time monitoring reports are submitted unless required otherwise in Schedule B of this permit. The reports shall contain the information listed in Paragraph D-3.

5. **Duty to Provide Information**

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for revoking coverage by this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

6. **Signatory Requirements**

All applications, reports, or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

7. **Falsification of Reports**

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000. per violation, or by imprisonment for not more than six months per violation, or by both.

SECTION E. DEFINITIONS AND ACRONYMS

1. "BOD₅" means five-day biochemical oxygen demand.
2. "COD" means chemical oxygen demand.
3. "Department" means Department of Environmental Quality.
4. "FC" means fecal coliform bacteria.
5. "MGD" means million gallons per day.
6. "mg/L" means milligrams per liter.
7. "mL/L" means milliliters per liter.
8. "Point Source Discharge" means a discharge from any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, or conduit.
9. "Reportable Quantities" means those quantities of hazardous substances listed in Table 117.3 of The Code of Federal Regulations, 40 CFR 117.
10. "Significant Material" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw

materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

11. "TOC" means total organic carbon.
12. "TOX" means total organic halides.
13. "TSS" means total suspended solids (non-filterable residue).
14. "Toxic Concentration" means lethality to aquatic life as measured by a significant difference in lethal concentration between the control and 100 percent effluent in an acute bioassay test.
15. "Regional Office" means the following field offices of DEQ which cover the listed counties:

Northwest Region - Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington counties.

Western Region - Benton, Coos, Curry, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Polk, and Yamhill counties.

Eastern Region - Baker, Crook, Deschutes, Gilliam, Grant, Harney, Hood River, Jefferson, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler counties.

Permit No. 101393
Expiration Date: 06-30-2001
File No. 70596
Page 1 of 13

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT**

Department of Environmental Quality
2020 S.W. Fourth Avenue, Suite 400, Portland, OR 97201-4987
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

Port of Portland
Ship Repair Yard
P.O. Box 3529
Portland, Oregon 97208

PLANT TYPE AND LOCATION:

Ship Repair Yard
Swan Island
5555 N. Channel Avenue
Portland, Oregon 97217

SOURCES COVERED BY THIS PERMIT

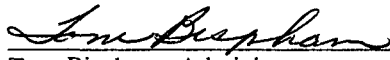
Type of Waste	Outfall No.	Outfall Location
Treated Ballast Water	001	R.M. 6.5
Treated Dry Docks Storm Water and Process Wastewater	002	R.M. 6.5

RECEIVING STREAM INFORMATION:

Basin: Willamette
Sub-Basin: Lower Willamette
Receiving Stream: Willamette River
Hydro Code: 22--WILL 8.0 D
County: Multnomah

EPA REFERENCE NO : OR 002294-2

Issued in response to Renewal Application No. 995559 received December 28, 1993.


Tom Bispham, Administrator
Northwest Region

07-16-96
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters and treated storm water only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	Page
Schedule A - Waste Discharge Limitations not to be Exceeded-----	2
Schedule B - Monitoring and Reporting Requirements-----	3
Schedule C - Compliance Conditions and Schedules-----	4
Schedule D - Pretreatment-----	4
Schedule E - Pretreatment-----	Not Applicable
Schedule F - General Conditions-----	5-13

Unless authorized by another NPDES permit, each other direct and indirect waste discharge to public waters is prohibited.

NWMAR119092

SCHEDULE A
Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

1. Outfall Number 001 (Treated Ballast Water)

Parameters	Limitations	
	Monthly Average	Daily Maximum
Flow	--	2650 l/min
pH	--	Within the range 6.0 - 9.0 s.u.
Oil & Grease	--	10 mg/l
Total Suspended Solids (TSS)	30 mg/l	50 mg/l

2. Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater)

Parameters	Limitations	
	Monthly Average	Daily Maximum
pH	--	Within the range 6.0 - 9.0 s.u.
Oil & Grease	8 mg/l	10 mg/l
Total Suspended Solids (TSS)	8 mg/l	10 mg/l
Copper	0.8 mg/l	1.0 mg/l
Lead	0.8 mg/l	1.0 mg/l
Zinc	0.8 mg/l	1.0 mg/l

3. Supplemental Dilution: The permittee shall provide supplemental dilution of the Treated Dry Docks Storm Water and Process Wastewater (Outfall 002) of no less than 3 times the effluent flow.
4. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:

The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 30 m from the points of discharge.
5. Compliance with water quality standards and the effluent limits specified above are required at the following locations:
 - A. Outfall 001: This outfall is defined as the discharge pipe from the holding tanks used to hold the treated ballast water for testing prior to discharge into the Willamette River. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.
 - B. Outfall 002: This outfall is defined as the discharge from the final stage of the dry docks storm water treatment plant. Sampling must be conducted and compliance will be determined at the point that the treatment plant effluent is discharged into the outfall prior to downstream supplemental dilution. Compliance with water quality standards shall be achieved after supplemental dilution.
6. Contaminated storm water and process wastewater generated on the dry docks at a rate that exceeds the storage and treatment capacity of the dry docks storm water treatment system of 757 m³/day may be discharged directly to the Willamette River without treatment, providing the applicable BMPs for the dry docks are in effect at the time.
7. If no work is being performed on the dry docks and the dry docks have been cleaned, then water from the docks can be discharged directly to the Willamette River without treatment.

8. Designed overflows and the discharge of contaminated storm water and essentially uncontaminated storm water directly to the Willamette River are specifically allowed by this permit. Such discharges are not subject to the prohibitions and reporting requirements specified in the NPDES General Conditions, Schedule F.

SCHEDULE B
Minimum Monitoring and Reporting Requirements
(unless otherwise approved in writing by the Department)

1. Outfall Number 001 (Treated Ballast Water):

Item or Parameter	Minimum Frequency	Type of Sample
Flow	1 time per batch discharge	Measurement, Grab
pH	1 time per batch discharge	Grab
Oil & Grease	1 time per batch discharge	Grab
Total Suspended Solids (TSS)	1 time per batch discharge	Grab

2. Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater):

Item or Parameter	Minimum Frequency	Type of Sample
Flow, Excluding Supplemental Dilution	Daily Total*	Measurement, Totalizer
Flow, Supplemental Dilution	Daily Total *	Estimate
pH	1/Week*	Grab
Oil & Grease	1/Month*	Grab
Total Suspended Solids (TSS)	1/Week*	Composite
Copper	1/Week*	Composite
Lead	1/Week*	Composite
Zinc	1/Week*	Composite

* During discharge periods.

3. Reporting Procedures: Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month. All data shall be reported in the International System of Units (S.I.).
4. Annually the permittee shall sample the storm water that exceeds the capacity of the dry docks collection, storage, and treatment system and that must be discharged directly to the Willamette River without treatment at the same time that ship repair activities are underway. The ship repair activities occurring, and BMPs in use, at the time the sample is collected shall be noted. Samples shall be analyzed for: pH, oil & grease, total suspended solids, copper, lead, and zinc. The sample results shall be submitted annually to the Department with an estimate of the frequency of occurrence of such direct discharge

capacity of the treatment system at the same time that ship repair activities are underway.

SCHEDULE C
Compliance Conditions and Schedules

1. Within 90 days of permit issuance, the permittee shall submit for review an updated report of Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard. At a minimum, the updated report shall include:
 - A. The additional BMPs recommended in the *Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System*, dated May 3, 1995.
 - B. The procedures that will be followed to minimize the discharge of contaminated storm water during storm events that cause runoff from the dry docks to exceed the treatment capacity of the Dry Docks Storm Water Storage and Treatment System (Outfall 002). These procedures are generally described in the *Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System*, dated May 3, 1995.
 - C. BMPs previously included in Schedule D of the previous permit (No. 100628).
 - D. Other BMPs to minimize the generation of wastes during repair activities and the management and restriction of wastes that may enter the waters of the state.
 - E. Operational procedures for the Dry Docks Water Containment and Treatment System.
 - F. Where appropriate, diagrams and/or photos shall be utilized to explain the particular BMP.
 - G. A description of quality control and quality assurance procedures that will be utilized to ensure that applicable BMPs are followed.
 - H. The updated report shall identify responsibilities for implementing the particular BMPs.

SCHEDULE D
Special Conditions

1. By March 1 annually, the permittee shall update the Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard to incorporate solutions to problems or new practices learned during the previous calendar year. The permittee shall notify the Department that the BMPs have been updated and shall summarize the changes implemented or proposed to improve the BMPs for the upcoming year.
2. The permittee shall ensure that all applicable Environmental Best Management Practices are employed at all times.
3. After operations on a vessel, the dry docks shall be thoroughly cleaned before submergence.
4. Floating containment booms shall be placed around all ships while transferring fuel in the ship yard. Permanent oil containment booms shall be installed on the inside of the most out board pier pilings and around all dry dock areas.
5. Sanitary wastes shall be discharged to the City of Portland municipal sewage system.
6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
7. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.
8. Additional Limitations or Monitoring Required: If monitoring indicates that certain pollutants are being discharged in quantities that may be a threat to the water quality of the receiving stream, the permit may be reopened and additional effluent limits and/or monitoring requirements added.

SCHEDULE F

NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or

-
-
- c. ~~A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.~~
-
-

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited unless:
 - (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;

- (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under General Condition B.3.c.
 - (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).
- c. Notice and request for bypass.
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
 - (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

- (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

- (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
- (3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;

- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
- b. Any upset which exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including

monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - [Applicable to Publicly Owned Treatment Works (POTW) only]

The permittee must provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - [Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]

The permittee must notify the Department as soon as they know or have reason to believe of the following:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.

6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

(Dec. 1, 1995)

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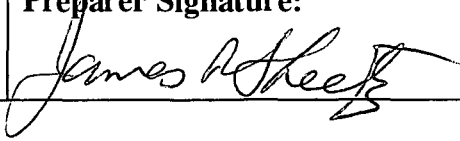
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FILE
WQ-MULT Co
PORT OF PORTLAND
SHIP REPAIR YARD

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT Permit Evaluation Review Report

Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201
503-229-5263 FAX 503-229-6945



Permittee: Port of Portland Ship Repair Yard PO Box 3529 Portland, Oregon 97208	Plant Location: Ship Repair Yard Swan Island 5555 N. Channel Avenue Portland, Oregon 97217
Sources Covered: Treated Ballast Water Treated Dry Docks Storm Water and Process Wastewater	Receiving Stream: Willamette River
Source Category: Minor Industrial	Proposed Action: NPDES permit renewal with new discharge.
File Information: WQ-Multnomah County File No. 70596 EPA Reference No.: OR 002294-2 Permit Application No. 995559 12/28/93	Source Contact: Kathy Futornick Environmental Affairs Manager 503-231-5000
Preparer: James Sheetz, P.E., DEE Water Quality Source Control Section Northwest Region 503-229-5740	Date Prepared: June 20, 1996 Preparer Signature: 

Overview of Proposed Action

The proposed action is to renew the NPDES permit for wastewater discharges from the Port of Portland's (Port) Swan Island Ship Repair Yard.

For many years, the Port has operated a system to treat ballast waste removed from the ships during maintenance operations. Typically, the ballast water is contaminated with oil and other pollutants. The treatment system treats this wastewater in batches before discharging it to the Willamette River. The NPDES permit for the ballast water system is being renewed with few changes from the previous permit.

This action will also add another discharge through the same outfall pipe to the Willamette River. As a result of an improvement program launched after the Department issued a Notice of Noncompliance on October 9, 1989, for water quality violations, the Port has developed corrective action for the discharge of pollutants from sandblasting and cleaning the ships in the dry docks. The pollutants, primarily metals, oil and grease, and suspended solids, have previously been carried directly into the river from precipitation on the dry docks. The Port is constructing a system to collect the contaminated storm water and treat it to levels acceptable for discharge. This permit will add effluent limits and other requirements for the new discharge to the permit conditions. Also, this evaluation report provides the findings required under OAR 340-41-026(3) for a waste load increase to an existing "Minor" permit renewal.

Facility Description

General

The Swan Island Ship Repair Yard (SRY) is owned by the Port of Portland. Ships are serviced and repaired while tied up at berths or while in the dry docks. (See Figure 1, Dry Docks Site Plan) There are 13 berths and 3 dry docks. Repair activities include cleaning and painting of the ship hulls.

In the past, several contractors performed work on ships at the Ship Repair Yard, and the Port managed the facilities and the contractors. Recently, however, the Port has contracted the management and operation of most of the facilities to Cascade General. Later, this permit may be transferred to Cascade General.

Spill Control

An oil spill occurred at the Ship Repair Yard on July 20, 1993. The cause was a ruptured hydraulic hose. The oil was contained and cleaned up.



Figure 1 - Dry Docks Site Plan

One spill-release report is on file for this facility. Cascade General reported a spill of 10 to 15 gallons of diesel fuel to the Willamette River at Berth 313 on March 6, 1995. Workers reportedly were flushing out fuel lines and residual diesel fuel was flushed into the river. The spill was reportedly cleaned up by a clean up contractor.

Ballast Water Treatment

General

The ballast water treatment facility has been in for many years. Ballast water is pumped from the ships into a settling tank and then through an oil skimmer. Next, the wastewater is processed by heating and skimming to remove additional oil. (See Figure

2, Ballast Water Treatment System)
Finally, the wastewater goes through an American Petroleum Institute (API) separator then into holding tanks. When the tanks are full, the wastewater is sampled through sample ports on the sides of the holding tanks. If the wastewater meets the requirements of the permit, it is discharged to the Willamette River in batches; otherwise, it is discharged to the sanitary sewer. The oil

recovered from the skimming and treatment processes is stored in holding tanks. Periodically, the product is tested and sold to recyclers. Emulsified oil and material from the settling tanks are taken to a sanitary landfill for disposal.



Figure 2 - Ballast Water Treatment System

Compliance History

The compliance history of the discharges from the Ballast Water Treatment Plant was reviewed for calendar years 1992 through 1995. There was no record of any exceedences of the waste discharge limitations during this period.

The facility was briefly inspected April 28, 1994. No violations were found.

There is no record in the files of complaints received by the Department regarding the ballast water treatment system.

Dry Docks Storm Water Treatment System

General

On October 9, 1989, the Department issued a Notice of Noncompliance (NON) to the Port for water quality violations resulting from the discharge of sand blast material to the Willamette River from ship repair activities at the dry docks. This NON resulted in the Port implementing various management improvements to reduce the effect of ship repair activities on water quality. Changes in procedures were implemented with the repair contractors to minimize waste generation and to try to contain or control wastes that could reach the river. Also, a program to sample and characterize the wastes was initiated. Generally, the sampling showed problems with metals, solids and grit, and other parameters.

In 1992, another NON was issued to the Port for sampling and reporting violations of their NPDES permit. These violations were subsequently corrected.

On June 2, 1993, the Department notified the Port that, although changes in operational and management procedures had made some improvements in water quality protection from the dry dock ship repair activities, more positive controls, such as treatment, were needed and a time schedule was requested. On June 28, 1993, the Port provided a time schedule for research, design, and construction of treatment and control facilities to be provided by April 1, 1994, for Dry Dock 4 and later for Dry Docks 1 and 3. On April 28, 1994, the Department met with representatives of the Port to discuss the technical aspects of a control and treatment system for the dry docks. Subsequently, on May 12, 1994, the Port notified the Department that it was decided to develop a treatment system for all three dry docks simultaneously and that the system would be designed in 1994 for construction in 1995. On May 3, 1995, an engineering report analyzing alternatives for the dry docks was submitted for review. The report was approved with certain conditions on August 3, 1995. The construction documents for the wastewater collection and treatment system for the dry docks were prepared in December, 1995, with construction scheduled for early 1996.

Process Description

The new facilities will collect, treat, and discharge wastewater from the three dry docks (Dry Docks 1, 3 & 4). There is no Dry Dock 2. Dry Docks 1 (See Figure 3, Dry Dock No. 1) and 3 (See Figure 4, Dry Dock No. 3) are the two smaller dry docks with approximately 4,373 and 6,305 m², respectively, of surface area. Dry Dock 4 is 15,938 m² (See Figures 5 and 6, Dry Dock No. 4)

Wastewater Sources

Wastewater sources from the dry docks include process wastewater, storm water, and water generated from the ships while in dry dock. Process wastewater consists of water generated from ship repair and maintenance activities, including hydroblasting, pressure washing, sandblasting, painting, and mechanical repairs. Although sandblasting only produces dry residue and airborne particles, the residue may contaminate water discharged from the ships' decks or storm water. Storm water on the dry docks can become contaminated with residues from the repair activities and thereby requires treatment. Non-maintenance and repair wastewater generated from the ship activities on the dry docks include non-contact cooling water, bilge pumping, and domestic wastes. These waste sources are not a part of the dry dock wastewater system. Only process wastewater and storm water generated from the dry docks are included in the dry docks wastewater system, which is described below.

Process wastewater is estimated to generate a peak daily flow of $378.5 \text{ m}^3/\text{day}$. This estimate was derived by

analyzing various scenarios of dry dock operation and ship maintenance activities. The representative scenario is based on $113.6 \text{ m}^3/\text{day}$ from 16 hours of pressure washing on Dry Dock 1 or 3 and $265 \text{ m}^3/\text{day}$ from 16 hours of hydroblasting on Dry Dock 4.

The estimate for contaminated storm water to be treated was derived based on an analysis of various scenarios involving operation of the dry docks, ship repair activities, and storm return frequencies. The fundamental assumptions included in this analysis were:

1. Clean storm water will be allowed to discharge directly to the Willamette River without passing through the treatment system.

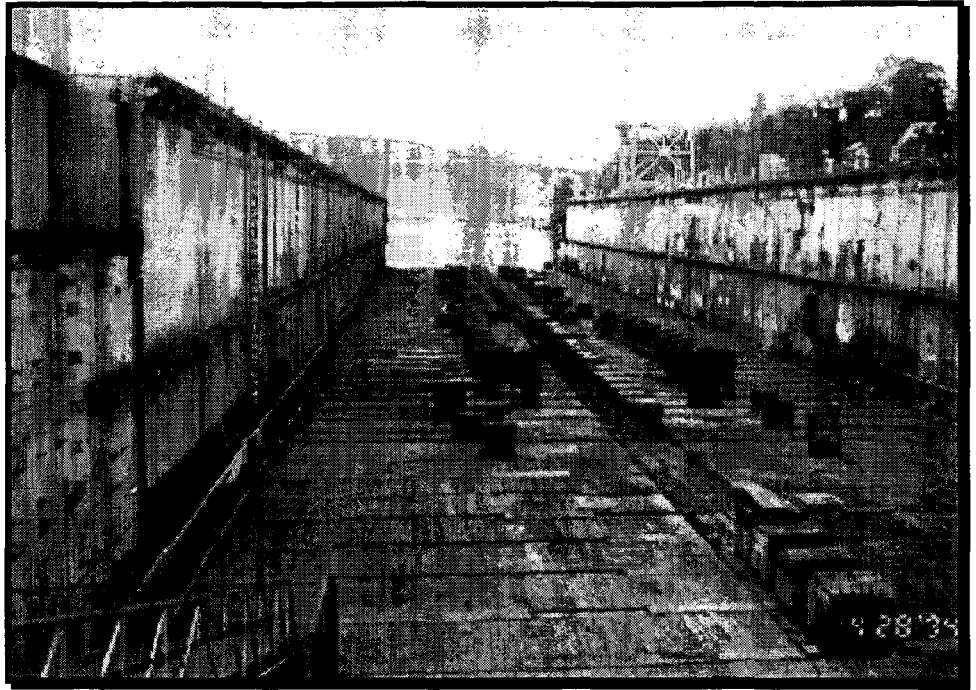


Figure 3 - Dry Dock No. 1

2. The design storm is a 10-year, 24-hour storm (8.38 cm per day). Operational procedures will be established to minimize the discharge of contaminants during storm events.
3. Ship maintenance and repair operations will cease during storms exceeding the design storm and will not contribute additional sources of contaminants. Contaminants on the dry docks will be cleaned up.

4. A "first flush" will occur for storms approaching or exceeding the design storm that will carry most of the contaminants to the treatment system. Storm water will contain progressively lower concentrations of

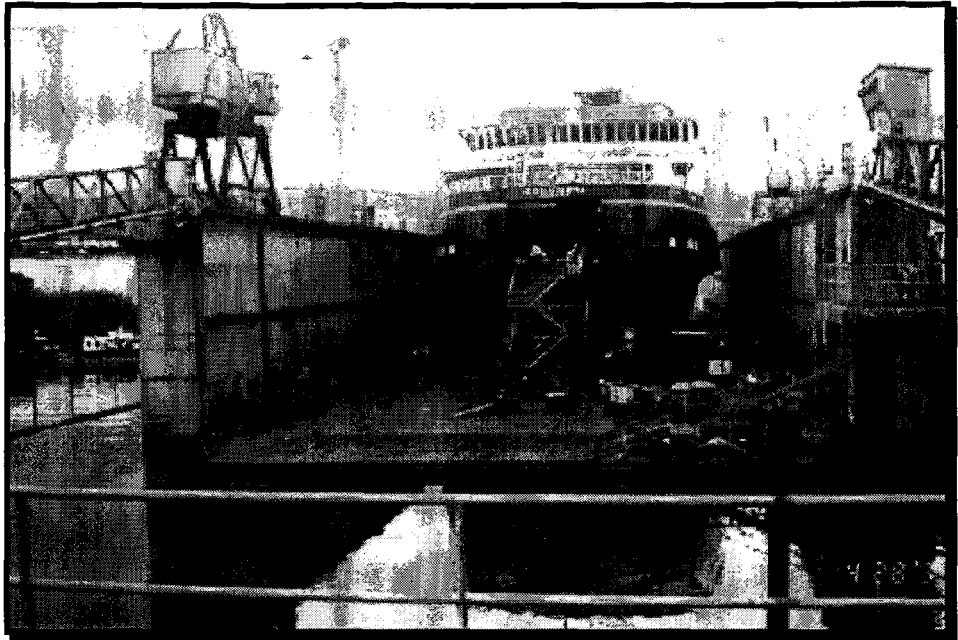


Figure 4 - Dry Dock No. 3

Moreover, Best

Management Practices (BMPs) will be implemented to maintain the lowest practicable accumulations of contaminants on the dry docks at all times.

5. The expected frequency of overflow to the river due to the combined effect of ship repair on multiple dry docks and a major storm event causing overflow is approximately once per year.

Using the above assumptions, several scenarios were analyzed relative to storm water control and treatment. The selected approach is to collect, store, and treat the first 757 m³ of contaminated storm water and discharge the remaining storm water directly to the Willamette River. Based on a probability analysis of shipyard activities, in conjunction with occurrence of various storm events, the worst case results in a discharge of storm water directly to the river once per year for a 8.38 cm rainfall and two ships in dry dock.

Wastewater Contaminants

The wastewater contaminants of primary concern include total suspended solids (TSS), oil and grease (O&G), Copper (Cu), Lead (Pb), and Zinc (Zn). The concentrations of these contaminants depends on the activities that may be going on at the time of sample collection. No data is available on the characteristics of storm water after a first flush storm event.

Evaluation of Alternatives

The design report analyzed various collection, storage, and treatment alternatives that included one or more of the following

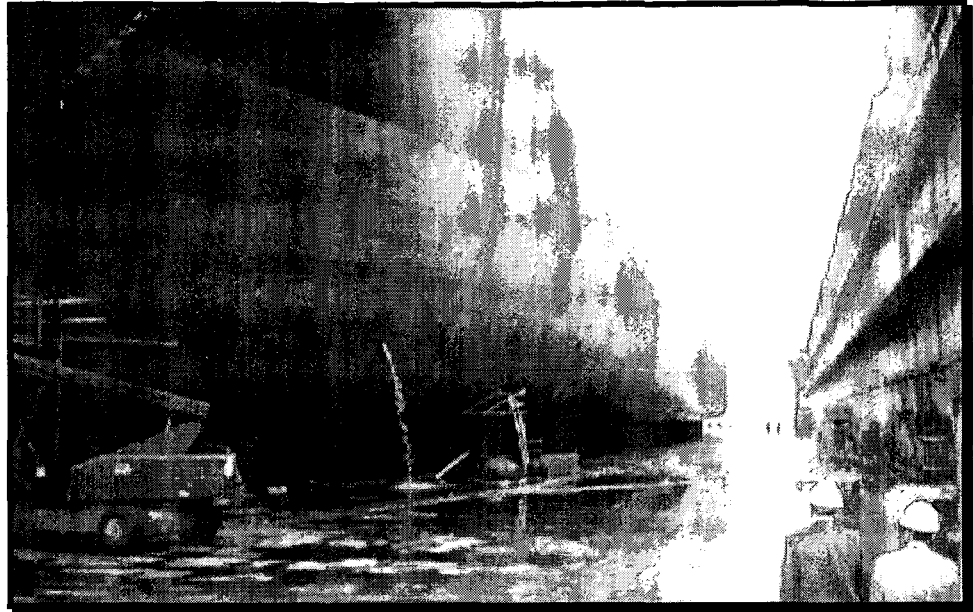


Figure 5 - Dry Dock 4

elements: waste minimization; containment (shrouds) to eliminate mixing of storm water with wastes; improved Best Management Practices (BMPs) to minimize the generation of wastes during repair activities and to restrict the volume and concentration of wastes discharged to the river; various degrees of separation of storm water from process water and contaminated dry dock decks; alternative dry dock containment and wastewater conveyance systems; pretreatment and discharge to the City of Portland sanitary sewer; pretreatment and reuse at SRY facilities; solids disposal; and "conventional" and "advanced" treatment unit processes with direct discharge to the Willamette River. The alternatives were evaluated based on cost, technical feasibility, water quality impacts, and operational factors.

Water Quality Evaluation

Mixing Zone Study

A mixing zone study was performed based on effluent concentrations of 2 mg/l for metals (Cu, Pb, Zn) and an effluent peak flowrate of 378.5 m³/d. The study used the existing outfall and diffuser and the existing 30 m mixing zone and assumed the ballast water treatment system would not discharge when the dry docks treatment system needed to discharge. The water quality fresh water chronic criteria and the concentrations at the edge of the mixing zone predicted by the study would be as follows:

<u>Constituent</u>	<u>Chronic Criteria</u>	<u>Mixing Zone Concentration</u>
Cu	12 µg/l	30 µg/l
Pb	3.2 µg/l	23 µg/l
Zn	110 µg/l	32 µg/l

The mixing zone study predicted that water quality criteria would not be met at the edge of the mixing zone for chronic criteria for copper and lead. The design report recommended pumping from the river into the outfall to dilute the treated effluent as necessary to meet water quality standards at the edge of the mixing zone for all of the metals of concern.

Final Treatment System

The final treatment alternative being constructed is described below.

1. A sheet drainage collection system will be provided for each dry dock. This system will convey storm water and process water to a pumping station and treatment facility. There will be no separation of the storm water from the decks of the dry docks.

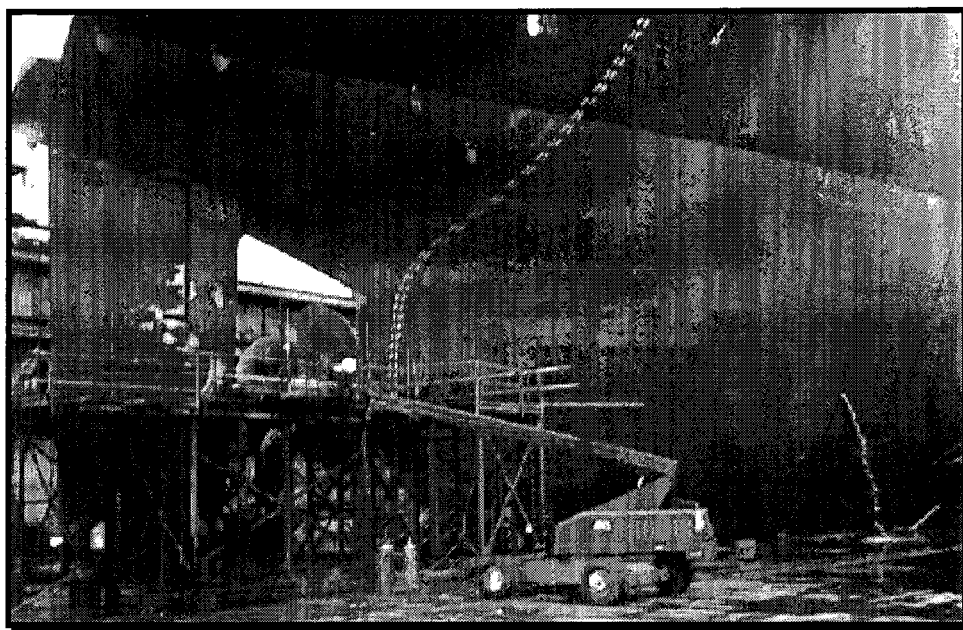


Figure 6 - Dry Dock No. 4

2. A 378.5 m³ storage-equalization tank and a 378.5 m³/day conventional treatment facility will be constructed. The first 378.5 m³ received daily will be treated at the treatment facility. The second 378.5 m³ received will be stored and treated the next day.
3. Storm water in excess of the treatment-storage capacity will be discharged directly to the Willamette River depending on the occurrence of various activities and events.
4. A conventional treatment system consisting of the following unit processes: grit removal, clarification, rapid mixing, flocculation, clarification, and filtration

will be provided. The coagulants and specific unit process equipment will be selected and sized following pilot tests and a treatability study. The system will be designed to produce the following maximum day effluent concentrations:

TSS	< 10 mg/l
O&G	< 10 mg/l
Cu	< 1 mg/l
Pb	< 1 mg/l
Zn	< 1 mg/l

The system is not designed with an oil skimming system because the wastewater will be pumped to the ballast water treatment plant, which was designed for oil and grease treatment, if the concentration of oil and grease exceeds 8 mg/l.

5. If it is later determined that storm water discharged directly to the river contains contaminants in concentrations unacceptable to the Department, then this storm water will be collected and stored in the ballast water storage tanks for later treatment in the dry docks treatment system. The new system will include a connection pipe to allow this to occur.
6. River water will be pumped into the treatment plant effluent outfall line to provide supplemental dilution to meet water quality standards within the existing mixing zone.
7. The Ship Repair Yard Environmental Best Management Practices will be amended and more vigorously enforced to minimize the generation of wastes during repair activities and to reduce the volume and contaminant concentration of wastes flowing to the river.

Supplemental Dilution

The selected treatment scheme involves pumping river water into the outfall pipe to dilute the treated effluent in order to meet water quality standards. This approach was selected to avoid going to an "advanced" level of treatment. The Department concurs that the "conventional" level of treatment selected for implementation is practicable for this situation. To date, the use of river water for effluent dilution prior to discharge has been allowed at only one other industrial facility in the state (OR-MET, Albany). This will be the second such facility using this approach.

Increased Load Findings and Considerations under OAR 340-41-026(3)

The Port has requested the additional waste load be included in the renewal of the permit for the ballast water treatment system. Because the effluent from the dry docks treatment facility is an increased waste load for the existing permit renewal, OAR 340-41-026(3) requires that the Department consider certain issues and make certain

findings before a permit can be issued. (EQC action is not required because the source is not a major discharger.) The required findings and considerations in reference to OAR 340-41-026(3) are described below.

Findings:

-026(3)(a)(A) The new or increased discharged load would not cause water quality standards to be violated.

Conclusion: The increased discharge load is from an additional discharge from a treatment facility for the contaminated storm water resulting from ship repair activities occurring on the dry docks during precipitation periods. Previously, the pollutants from this activity were allowed to be flushed off the dry dock during rain events and when the dry docks were submerged. This practice resulted in violations of water quality standards. A new treatment plant is being installed to remove total suspended solids, and copper, lead, and zinc, as well as to adjust pH. The system will remove other metals in addition to copper, lead, and zinc, but these three metals are used as indicator parameters.

Lead was used as the most stringent parameter for the water quality analysis. A mixing zone study was performed by the permittee's consultants using EPA's CORMIX2 model. The results of the modeling indicated that either supplemental dilution or an advanced level of treatment would be required to meet the water quality standard for lead at the edge of the mixing zone.

The permittee's analysis of the alternatives included a comparison of the costs and performance of a treatment facility using conventional methods with other alternatives using an advanced level of treatment. The analysis also included a comparison of the probabilities of the occurrence of ship repair activities on the dry docks and precipitation frequencies with storage and treatment capacity and performance. This probability analysis was necessary because the dry docks are not in use at all times and intense storm events that could exceed the capacity of the treatment plant do not necessarily occur when the dry docks are in use. This analysis resulted in the selection of a conventional treatment facility that will provide an effluent quality that will not meet water quality standards without supplemental dilution.

The permittee proposes to provide supplemental dilution by pumping river water into the outfall pipe at a rate of more than three times the treatment plant effluent flow. The diluted effluent will then meet the water quality standards within the established mixing zone of 30 m. This approach of using supplemental dilution to meet water quality standards has been allowed at one other facility in the state, OR-MET, Albany.

The Department's findings are that water quality standards will be met using the approach proposed by the permittee.

-026(3)(a)(B) The new or increased discharged load would not unacceptably threaten or impair any recognized beneficial uses.

Conclusion: The increased discharged load includes oil and grease, total suspended solids, and metals that are represented by copper, lead, and zinc. Based on the evaluation of water quality impacts and the determination that the numeric criteria to protect specific uses are met, then the beneficial uses they are designed to protect are also protected. The Department believes that beneficial uses of the Willamette River will not be impaired or threatened.

-026(3)(a)(C) The new or increased discharged load shall not be granted if the receiving stream is classified as being water quality limited under OAR 340-41-006(30)(a)...

Conclusion: The Willamette River has not been determined to be water quality limited for pH, oil and grease, total suspended solids, copper, lead, or zinc.

-026(3)(a)(D) The activity, expansion, or growth necessitating a new or increased discharge load is consistent with the acknowledged local land use plans...

Conclusion: The proposed permit is for the addition of a new discharge but the discharge is not associated with a new activity, expansion, or growth. The new discharge is to correct a water pollution control problem that was previously not controlled. The project was reviewed by the City of Portland Department of Planning. In Administrative Findings and Decision for Land Use Review 95-00206GW dated April 25, 1995, the agency found the project to be compatible with applicable land use plans.

Environmental Effects Criteria:

-026(3)(b)(A)(i) Adverse Out-of-Stream Effects. There may be instances where the non-discharge or limited discharge alternatives may cause greater adverse environmental effects than the increased discharge alternative.

This criteria does not apply because none of the non-discharge or limited discharge alternatives investigated would have had adverse environmental effects compared with the increased discharge alternative.

-026(3)(b)(A)(ii) Instream Effects. Total stream loading may be reduced through elimination or reduction of other source discharges or through a reduction in seasonal discharge. A source that replaces other sources, accepts additional waste from less efficient treatment units or systems, or reduces discharge loading during periods of low stream flow may be permitted an increased discharge load year-round or during seasons of high flow, as appropriate.

This criteria is applicable because the new discharge will reduce the uncontrolled and untreated discharges from the dry docks. Although the proposed discharge is new, the waste generation is not. The new discharge will reduce the total load to the river from the ship repair activities on the dry docks.

-026(3)(b)(A)(iii) Beneficial Effects. Land application, upland wetlands application, or other non-discharge alternatives for appropriately treated wastewater may replenish groundwater levels and increase stream flow and assimilative capacity during otherwise low stream flow periods.

These effects are not involved with this permit, so the criteria is not applicable.

Economic Effects Criteria:

-026(3)(b)(B)(i) Value of Assimilative Capacity. The assimilative capacity of Oregon's streams are finite, but the potential uses of this capacity are virtually unlimited. Thus it is important that priority be given to those beneficial uses that promise the greatest return (beneficial use) relative to the unused assimilative capacity that might be utilized. Instream uses that will benefit from reserve assimilative capacity, as well as potential future beneficial use, will be weighed against the economic benefit associated with increased loading.

Assimilative capacity of the river is currently being used by the Port through the uncontrolled release of pollutants from untreated runoff from the dry docks. This new discharge will reduce the amount of assimilative capacity used by the Port because the pollutants discharged under the new permit will be after treatment whereas the existing discharge is from untreated wastes.

The constituents in the new discharge will include pH, total suspended solids, and metals represented by copper, lead, and zinc. Because assimilation of these constituents is primarily by dilution and deposition rather than biological oxidation, the assimilative capacity is primarily related to stream flow. The assimilative capacity utilized by the new discharge (primarily during the wet weather periods) will not be measurable.

(3)(b)(B)(ii) Cost of Treatment Technology. The cost of improved treatment technology, nondischarge, and limited discharge alternatives shall be evaluated.

The permittee analyzed eight collection, storage, and treatment alternatives described previously. The present worth cost of the alternatives varied from \$2.444 to \$1.085 million. The capital costs varied from \$1,698,000 to \$610,000. The selected alternative has the lowest present worth cost and the lowest capital cost, and is considered by the Department to be environmentally acceptable.

Front Page

The following statement on the front page was modified to add treated storm water:

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters and treated storm water only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

Schedule A—Waste Discharge Limitations

Treated Ballast Water

Schedule A limitations for the discharge of treated ballast water, Outfall 001, will be as follows:

1. *Outfall Number 001 (Treated Ballast Water)*

<i>Parameters</i>	<i>Limitations</i>	
	<i>Monthly Average</i>	<i>Daily Maximum</i>
<i>Flow</i>	--	<i>2650 l/min</i>
<i>pH</i>	--	<i>Within the range 6.0 - 9.0 s.u.</i>
<i>Oil & Grease</i>	--	<i>10 mg/l</i>
<i>Total Suspended Solids (TSS)</i>	<i>30 mg/l</i>	<i>50 mg/l</i>

The above ballast water effluent limitations are unchanged from the previous permit. As noted previously, the facility has operated in compliance with these permit limitations and the Department knows of no reason to change the limitations.

Treated Dry Docks Storm Water and Process Wastewater

Schedule A limitations for the discharge of treated dry docks storm water and process wastewater, Outfall 002, will be as follows:

2. *Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater)*

<i>Parameters</i>	<i>Limitations</i>	
	<i>Monthly Average</i>	<i>Daily Maximum</i>
<i>pH</i>	--	<i>Within the range 6.0 - 9.0 s.u.</i>
<i>Oil & Grease</i>	<i>8 mg/l</i>	<i>10 mg/l</i>
<i>Total Suspended Solids (TSS)</i>	<i>8 mg/l</i>	<i>10 mg/l</i>
<i>Copper</i>	<i>0.8 mg/l</i>	<i>1.0 mg/l</i>
<i>Lead</i>	<i>0.8 mg/l</i>	<i>1.0 mg/l</i>
<i>Zinc</i>	<i>0.8 mg/l</i>	<i>1.0 mg/l</i>

The above limitations for treated dry docks storm water and process wastewater are new and are based on the design of the proposed treatment facility. No compliance history exists. The Department has reviewed the design and construction documents for this facility and believes it will be capable of meeting these effluent limitations.

Flow

No flow limitation is given in Schedule A for the dry docks storm water treatment facility because it is desirable that the system provide treatment for as much storm water as can be collected and treated. A flow limitation in Schedule A for this discharge would be incompatible with the purpose of the facility, which is to treat as much storm water as possible.

pH

The pH limitation of 6.0 to 9.0 s.u. is a standard condition.

Oil & Grease

The oil and grease limitation of 10 mg/l is to achieve compliance with OAR 340-41-445)(2)(k), which limits the discharge of oily materials.

Total Suspended Solids

The total suspended solids (TSS) limitation of 10 mg/l is a technology-based limitation based on the capabilities of the proposed treatment facility.

Copper, Lead, and Zinc

Copper, lead, and zinc are representative metals that are generated during sandblasting and repairing ships in the dry docks. Lead was used to model the discharge to represent the treated metals concentrations at the edge of the mixing zone. Lead is the most restrictive of the three representative metals because the fresh water chronic water quality criteria for lead is 3.2 µg/l whereas the fresh water chronic criteria for copper is 12 µg/l and for zinc is 110 µg/l. Because the treatment process will be capable of removing other metals as well as lead, basing the water quality analysis on lead ensures that other metals will also be removed and water quality will be protected.

Other Conditions

3. *Supplemental Dilution: The permittee shall provide supplemental dilution of the Treated Dry Docks Storm Water (Outfall 002) of no less than 3 times the effluent flow.*

This condition is to ensure that the permittee will provide the supplemental dilution of at least 3 times the effluent flow so the in-stream water quality standards are met at the edge of the mixing zone.

4. *Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:*

The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 30 m from the points of discharge.

This is a standard condition. The size of the mixing zone is unchanged from the previous permit.

5. *Compliance with water quality standards and the effluent limits specified above are required at the following locations:*
 - A. *Outfall 001: This outfall is defined as the discharge pipe from the holding tanks used to hold the treated ballast water for testing prior to discharge into the Willamette River. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.*
 - B. *Outfall 002: This outfall is defined as the discharge from the final stage of the dry docks storm water treatment plant. Sampling must be conducted and compliance will be determined at the point that the treatment plant effluent is discharged into the outfall prior to downstream supplemental dilution. Compliance with water quality standards shall be achieved after supplemental dilution.*

These conditions establish the compliance points. The compliance point for the ballast water discharge is unchanged from the previous permit. The compliance point for the discharge from the dry docks storm water treatment system is new because the system is new. The compliance point for the dry docks system will be at the end of the treatment process before discharge into the outfall pipe. The outfall for these two discharges is the same pipe. The ballast water will be discharged in batches when the dry docks treatment plant is not discharging. The effluent from the dry docks treatment system will be diluted with river water in the outfall prior to discharge.

6. *Contaminated storm water generated on the dry docks at a rate that exceeds the storage and treatment capacity of the dry docks storm water treatment system of 757 m³/day may be discharged directly to the Willamette River without treatment, providing the applicable BMPs for the dry docks are in effect at the time.*

This condition allows contaminated storm water that exceeds the storage and treatment capacity of the dry docks storm water treatment system to be discharged directly to the Willamette River without treatment. As noted previously, this event may occur when there is high precipitation at the same time the dry docks are in use and the storage tank is full. The probability that this event will occur is one time per year. Direct discharge without treatment is allowed only if the applicable Best Management Practices (BMPs) are in effect at the time. BMPs will include cessation of ship repair activities during such storm events and other measures to mitigate the discharge of pollutants.

7. *If no work is being performed on the dry docks and the dry docks have been cleaned, then water from the docks can be discharged directly to the Willamette River without treatment.*

This condition allows essentially uncontaminated storm water to be discharged directly to the Willamette River without treatment. This condition could occur when the dry docks are not in use for ship repair.

8. *Designed overflows and the discharge of contaminated storm water and essentially uncontaminated storm water directly to the Willamette River are specifically allowed by this permit. Such discharges are not subject to the prohibitions and reporting requirements specified in the NPDES General Conditions, Schedule F.*

This condition is to exclude designed overflows from the prohibitions and reporting requirements of the NPDES General Conditions

Schedule B—Monitoring Requirements

Treated Ballast Water

Schedule B monitoring requirements for the discharge of treated ballast water, Outfall 001, will be as follows:

1. *Outfall Number 001 (Treated Ballast Water):*

<i>Item or Parameter</i>	<i>Minimum Frequency</i>	<i>Type of Sample</i>
<i>Flow</i>	<i>1 time per batch discharge</i>	<i>Measurement, Grab</i>
<i>pH</i>	<i>1 time per batch discharge</i>	<i>Grab</i>
<i>Oil & Grease</i>	<i>1 time per batch discharge</i>	<i>Grab</i>
<i>Total Suspended Solids (TSS)</i>	<i>1 time per batch discharge</i>	<i>Grab</i>

The above monitoring requirements for the ballast water treatment facility are different from the previous permit. The previous permit required flow monitoring daily and monitoring of pH, oil and grease, and TSS weekly. However, this system is operated as a batch process and the parameters have typically been monitored for each batch from the holding tanks. The above changes will make the permit consistent with the way the facilities actually operate.

Treated Dry Docks Storm Water and Process Wastewater

Schedule B monitoring requirements for the discharge of treated dry docks storm water and process wastewater, Outfall 002, will be as follows:

2. *Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater):*

<i>Item or Parameter</i>	<i>Minimum Frequency</i>	<i>Type of Sample</i>
<i>Flow, Excluding Supplemental Dilution</i>	<i>Daily Total*</i>	<i>Measurement, Totalizer</i>
<i>Flow, Supplemental Dilution</i>	<i>Daily Total *</i>	<i>Estimate</i>
<i>pH</i>	<i>1/Week*</i>	<i>Grab</i>
<i>Oil & Grease</i>	<i>1/Month*</i>	<i>Grab</i>
<i>Total Suspended Solids (TSS)</i>	<i>1/Week*</i>	<i>Composite</i>
<i>Copper</i>	<i>1/Week*</i>	<i>Composite</i>
<i>Lead</i>	<i>1/Week*</i>	<i>Composite</i>
<i>Zinc</i>	<i>1/Week*</i>	<i>Composite</i>
<i>* During discharge periods.</i>		

The above monitoring requirements are new because the dry docks storm water treatment facility is new. The monitoring noted above will only be required during periods of precipitation when the facility needs to operate. The rationale for each of the specified monitoring parameters is given below.

Flow

Flow monitoring will be required on a daily basis during periods of discharge. The discharge period will typically be during the wet weather period, but summer storms may result in discharge during the dry weather period. A totalizer will be provided so the operator can record the daily total flow. Instantaneous flow measurements are not required.

The treatment plant effluent flow will be measured prior to mixing with supplemental dilution water. The flow of the supplemental dilution water will also be measured so the amount of dilution can be calculated.

pH, Oil & Grease

These parameters need to be monitored because of the discharge limitations in Schedule A. Weekly monitoring of pH is believed sufficient because the metals removal process involves the addition of Bentonite clay as a flocculent rather than precipitation by pH adjustment. Monthly monitoring of oil and grease is believed appropriate because the treatment facility will have automatic monitoring and controls that will prevent discharge if concentrations of oil and grease in the effluent exceed specified limitations. Monthly testing will primarily check on the operation of the automatic monitoring equipment and will verify compliance.

Copper, Lead, and Zinc

These parameters need to be monitored because of the discharge limitations in Schedule A. Weekly monitoring of metals is believed appropriate because the treatment facility will be automatically controlled so that variability of the effluent will be minimized. The facility will use physical and chemical processes rather than biological processes so the effluent quality should be fairly predictable after the initial adjustments are made. Weekly monitoring is believed sufficient to verify compliance and proper operation of the facility.

Other Conditions

3. *Reporting Procedures: Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.*

This is a standard condition.

4. *Annually the permittee shall sample the storm water that exceeds the capacity of the dry docks collection, storage, and treatment system and that must be discharged directly to the Willamette River without treatment at the same time that ship repair activities are underway. The ship repair activities occurring, and BMPs in use, at the time the sample is collected shall be noted. Samples shall be analyzed for: pH, oil & grease, total suspended solids, copper, lead, and zinc. The sample results shall be submitted annually to the Department with*

an estimate of the frequency of occurrence of such direct discharge during the year. No sample is required if there is no storm event that causes an exceedence of the capacity of the treatment system at the same time that ship repair activities are underway.

As noted previously, the storage and treatment facility is designed to handle the storm water from the dry docks under certain conditions, but not for all conditions. It was designed based on a probability analysis of activities and storm events. It is predicted that once a year conditions may occur that could result in more runoff from the dry docks than can be handled by the storage and treatment facility. In such a case, the Port's contractor would institute certain BMPs to minimize discharge of pollutants directly to the river. These BMPs include cessation of sand blasting operations. Also, other BMPs should be in effect at all times to minimize the generation of wastes. This monitoring condition would require the permittee to sample the direct discharge of contaminated storm water if this condition should occur.

Schedule C—Compliance Conditions

The compliance conditions and schedules described below will be included in Schedule C.

1. *Within 90 days of permit issuance, the permittee shall submit for review an updated report of Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard. At a minimum, the updated report shall include:*
 - A. *The additional BMPs recommended in the Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System, dated May 3, 1995.*
 - B. *The procedures that will be followed to minimize the discharge of contaminated storm water during storm events that cause runoff from the dry docks to exceed the treatment capacity of the Dry Docks Storm Water Storage and Treatment System (Outfall 002). These procedures are generally described in the Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System, dated May 3, 1995.*
 - C. *BMPs previously included in Schedule D of the previous permit (No. 100628).*
 - D. *Other BMPs to minimize the generation of wastes during repair activities and the management and restriction of wastes that may enter the waters of the state.*
 - E. *Operational procedures for the Dry Docks Water Containment and Treatment System.*
 - F. *Where appropriate, diagrams and/or photos shall be utilized to explain the particular BMP.*
 - G. *A description of quality control and quality assurance procedures that will be utilized to ensure that applicable BMPs are followed.*

- H. *The updated report shall identify responsibilities for implementing the particular BMPs.*

The above compliance condition is to ensure that the Environmental Best Management Practices (BMPs) are revised and updated to reflect the new dry docks collection, storage, and treatment facilities. The new facilities were approved by the Department based on the assurance that BMPs would be in effect to minimize waste generation and to limit the direct discharge of contaminated storm water.

Schedule D—Special Conditions

The conditions described below will be included in Schedule D of the permit.

1. *By March 1 annually, the permittee shall update the Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard to incorporate solutions to problems or new practices learned during the previous calendar year. The permittee shall notify the Department that the BMPs have been updated and shall summarize the changes implemented or proposed to improve the BMPs for the upcoming year.*

This condition is to ensure that the BMPs are updated annually and the BMPs are continually improved as experience is gained.

2. *The permittee shall ensure that all applicable Environmental Best Management Practices are employed at all times.*

This condition is to ensure that the applicable BMPs are implemented.

3. *After operations on a vessel, the dry docks shall be thoroughly cleaned before submergence.*

This condition reflects current practice and will prevent a dry dock from being submerged when wastes from the ship repair and cleaning activities remain on the dock.

4. *Floating containment booms shall be placed around all ships while transferring fuel in the ship yard. Permanent oil containment booms shall be installed on the inside of the most out board pier pilings and around all dry dock areas.*

The condition reflects current practice and will ensure containment of fuel spills.

5. *Sanitary wastes shall be discharged to the City of Portland municipal sewage system.*

This condition reflects the current conditions.

6. *An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.*

This is a standard condition.

7. *An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.*

This is a standard condition.

8. *Additional Limitations or Monitoring Required: If monitoring indicates that certain pollutants are being discharged in quantities that may be a threat to the water quality of the receiving stream, the permit may be reopened and additional effluent limits and/or monitoring requirements added.*

This condition will facilitate the Department reopening the permit and adding other limitations or monitoring requirements if the new facilities do not perform as expected or direct discharge of contaminated storm water is later determined to cause unforeseen impacts.

Permit Number: 1200-Z
Expiration Date: 6/30/2002
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GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT

Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5279

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

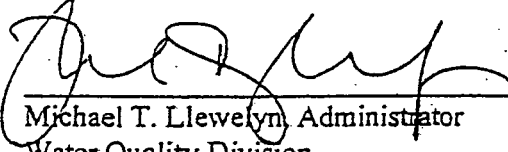
Issued 4/9/98 GEN12Z MULTNOMAH/NWR
File No. 70596/B

Cascade General, Inc.
5555 N. Channel Ave. Bldg. 50
Portland OR 97217

SOURCES COVERED BY THIS PERMIT

Facilities identified in 40 Code of Federal Regulation (CFR) §122.26(b)(14)(i -ix, xi) with storm water discharges. Construction activities, asphalt mix batch plants, concrete batch plants and Standard Industrial Classification code 14, *Mining and Quarrying of Nonmetallic Minerals, Except Fuels* are excluded from this permit. These activities are regulated under separate permits.

See Table 1: Sources Covered, pages 2-3, for more information on the CFR regulated industries covered by this permit.


Michael T. Llewellyn, Administrator
Water Quality Division

JULY 22, 1997
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate storm water treatment and/or control facilities, and to discharge storm water to public waters in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	Page
Schedule A - Storm Water Pollution Control Plan, Additional Requirements, Limitations, and Benchmarks	4-8
Schedule B - Monitoring and Reporting Requirements	9-10
Schedule C - Compliance Conditions and Schedules	11
Schedule D - Special Conditions	12
Schedule F - General Conditions	13

Unless authorized by another NPDES permit, all other direct and indirect discharges to public waters are prohibited.

NWMAR119127

TABLE 1: Sources Covered

Previous Permit Type	Sources Covered
1200-D	<p>Facilities with the following primary Standard Industrial Classification codes:</p> <ul style="list-style-type: none"> 21 Tobacco Products 22 Textile Mill Products 23 Apparel and Other Finished Products Made From Fabrics and Similar Material 27 Printing, Publishing and Allied Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage <p>Facilities with SIC codes 22, 23, 27, 4221, 4222, and 4225 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.</p>
1200-F	<p>Facilities with primary Standard Industrial Classification code 20 Food and Kindred Products. Facilities with this SIC code are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.</p>
1200-G	<p>Landfills, land application sites and open dumps.</p>
1200-H	<p>Facilities with the following primary Standard Industrial Classification codes:</p> <ul style="list-style-type: none"> 28 Chemicals and Allied Products (excluding 2874 Phosphate Fertilizer Manufacturing) 29 Petroleum Refining and Related Industries 30 Rubber and Miscellaneous Plastics Products 31 Leather and Leather Products 32 Stone, Clay, Glass, and Concrete Products 33 Primary Metal Industries <p>and Steam Electric Power Generation including coal handling sites.</p> <p>Facilities with SIC codes 283, 285, 30, 31 (except 311), and 323 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.</p>
1200-L	<p>Facilities with the following primary Standard Industrial Classification codes:</p> <ul style="list-style-type: none"> 34 Fabricated Metal Products, Except Machinery and Transportation Equipment 35 Industrial and Commercial Machinery and Computer Equipment 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 Transportation Equipment 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks 39 Miscellaneous Manufacturing Industries <p>Facilities with SIC codes 34 (except 3441), 35, 36, 37 (except 373), 38, and 39 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.</p>

TABLE 1: Sources Covered (cont.)

Previous Permit Type	Sources Covered
1200-M	Facilities with the following primary Standard Industrial Classification codes: 10 Metal Mining 12 Coal Mining 13 Oil and Gas Extraction
1200-P	Facilities with primary Standard Industrial Classification code 26 Paper and Allied Products. Facilities with SIC codes 265 and 267 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.
1200-R	Hazardous Waste Treatment, Storage and Disposal Facilities, and facilities with primary Standard Industrial Classification codes 5015 Motor Vehicle Parts, Used, and 5093 Scrap and Waste Materials.
1200-S	Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR § 403.
1200-T	Facilities with the following primary Standard Industrial Classification codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations: 40 Railroad Transportation 41 Local and Suburban Transit and Interurban Highway Passenger Transportation 42 Motor Freight Transportation and Warehousing (excluding 4221 Farm Product Warehousing and Storage, 4222 Refrigerated Warehousing and Storage, and 4225 General Warehousing and Storage) 43 United States Postal Service 44 Water Transportation 45 Transportation by Air 5171 Petroleum Bulk Stations and Terminals
1200-W	Facilities with the following primary Standard Industrial Classification codes: 24 Lumber and Wood Products, Except Furniture (excluding 2491 Wood Preserving and 2411 Logging) 25 Furniture and Fixtures Facilities with SIC codes 2434 and 25 are only required to apply for permit if storm water is exposed to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery.

SCHEDULE A
STORM WATER POLLUTION CONTROL PLAN

1. Preparation and Implementation of the Storm Water Pollution Control Plan (SWPCP)

- a) The SWPCP shall be prepared by a person knowledgeable in storm water management and familiar with the facility.
- b) The SWPCP shall be signed in accordance with 40 CFR §122.22. Updates and revisions to the SWPCP shall also be signed in this manner. The SWPCP shall be signed as follows:
 - i) For a Corporation - By a principal executive officer of at least the level of vice president;
 - ii) For a Partnership or Sole Proprietorship - By a general partner or the proprietor, respectively; or
 - iii) For a Municipality, State, Federal, or other Public Facility - By either a principal executive officer or ranking elected official.
- c) The SWPCP shall be prepared and implemented according to the time frames set forth in Schedule C.
- d) The SWPCP shall be kept current and updated as necessary to reflect any changes in facility operation.
- e) The SWPCP and updates to the SWPCP shall be submitted to the Department in accordance with Schedule B.3.
- f) A copy of the SWPCP shall be kept at the facility and made available upon request to government agencies responsible for storm water management in the permittee's area.

2. Storm Water Pollution Control Plan Requirements

- a) **Site Description** The SWPCP shall contain the following information:
 - i) A description of the industrial activities conducted at the site. Include a description of the significant materials (see Schedule D.3, Definitions) that are stored, used, treated and/or disposed of in a manner that allows exposure to storm water. Also describe the methods of storage, usage, treatment and/or disposal.
 - ii) A general location map showing the location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features.
 - iii) A site map including the following:
 - (1) drainage patterns
 - (2) drainage and discharge structures
 - (3) outline of the drainage area for each storm water outfall
 - (4) paved areas and buildings within each drainage area
 - (5) areas used for outdoor manufacturing, treatment, storage, and/or disposal of significant materials
 - (6) existing structural control measures for reducing pollutants in storm water runoff
 - (7) material loading and access areas
 - (8) hazardous waste treatment, storage and disposal facilities
 - (9) location of wells including waste injection wells, seepage pits, drywells, etc.
 - (10) location of springs, wetlands and other surface water bodies.
 - iv) Estimates of the amount of impervious surface area (including paved areas and building roofs) relative to the total area drained by each storm water outfall.
 - v) For each area of the site where a reasonable potential exists for contributing pollutants to storm water runoff, identify the potential pollutants that could be present in storm water discharges.
 - vi) The name(s) of the receiving water(s) for storm water drainage. If drainage is to a municipal storm sewer system, the name(s) of the ultimate receiving waters and the name of the municipality.

- vii) Identification of the discharge outfall(s) and the point(s) where storm water monitoring will occur as required by Schedule B. If multiple discharge outfalls exist but will not all be monitored (as allowed in Schedule B.1.c), a description supporting this approach shall also be included.
- b) **Site Controls** The permittee shall maintain existing controls and/or develop new controls appropriate for the site. The purpose of these controls is to eliminate or minimize the exposure of pollutants to storm water. In developing a control strategy, the SWPCP shall have the following minimum components. A description of each component shall be included in the SWPCP.
- i) *Storm Water Best Management Practices* If technically and economically feasible, the following best management practices shall be employed at the site. A schedule for implementation of these practices shall be included in the SWPCP if the practice has not already been accomplished. This schedule must be consistent with the requirements for developing and implementing the SWPCP in Schedule C of the permit.
- (1) Containment - All hazardous materials (see Schedule D.3, Definitions) shall be stored within berms or other secondary containment devices to prevent leaks and spills from contaminating storm water. If the use of berms or secondary containment devices is not possible, then hazardous materials shall be stored in areas that do not drain to the storm sewer system.
 - (2) Oil and Grease - Oil/Water separators, booms, skimmers or other methods shall be employed to eliminate or minimize oil and grease contamination of storm water discharges.
 - (3) Waste Chemicals and Material Disposal - Wastes shall be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to storm water. All waste contained in bins or dumpsters where there is a potential for drainage of storm water through the waste shall be covered to prevent exposure of storm water to these pollutants. Acceptable covers include, but are not limited to, storage of bins or dumpsters under roofed areas and use of lids or temporary covers such as tarps.
 - (4) Erosion and Sediment Control - Erosion control methods such as vegetating exposed areas, graveling or paving shall be employed to minimize erosion of soil at the site. Sediment control methods such as detention facilities, sediment control fences, vegetated filter strips, bioswales, or grassy swales shall be employed to minimize sediment loads in storm water discharges. For activities that involve land disturbance, the permittee shall contact the local municipality to determine if there are other applicable requirements.
 - (5) Debris Control - Screens, booms, settling ponds, or other methods shall be employed to eliminate or minimize debris in storm water discharges.
 - (6) Storm Water Diversion - Storm water shall be diverted away from fueling, manufacturing, treatment, storage, and disposal areas to prevent exposure of uncontaminated storm water to potential pollutants.
 - (7) Covering Activities - Fueling, manufacturing, treatment, storage, and disposal areas shall be covered to prevent exposure of storm water to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings and temporary covers such as tarps.
 - (8) Housekeeping - Areas that may contribute pollutants to storm water shall be kept clean. Sweeping, prompt clean up of spills and leaks, and proper maintenance of vehicles shall be employed to eliminate or minimize exposure of storm water to pollutants.

- ii) *Spill Prevention and Response Procedures* Methods to prevent spills along with clean-up and notification procedures shall be included in the SWPCP. These methods and procedures shall be made available to appropriate personnel. The required clean up material shall be on-site or readily available. ~~Spills prevention plans required by other~~ regulations may be substituted for this provision providing that storm water management concerns are adequately addressed.
- iii) *Preventative Maintenance* A preventative maintenance program shall be implemented to ensure the effective operation of all storm water best management practices. At a minimum the program shall include:
 - (1) Monthly inspections of areas where potential spills of significant materials or industrial activities could impact storm water runoff.
 - (2) Monthly inspections of storm water control measures, structures, catch basins, and treatment facilities.
 - (3) Cleaning, maintenance and/or repair of all materials handling and storage areas and all storm water control measures, structures, catch basins, and treatment facilities as needed upon discovery.
- iv) *Employee Education* An employee orientation and education program shall be developed and maintained to inform personnel of the components and goals of the SWPCP. The program shall also address spill response procedures and the necessity of good housekeeping practices. A schedule for employee education shall be included in the SWPCP.
- c) **Record Keeping and Internal Reporting Procedures** The following information shall be recorded and maintained at the facility and provided to the Department and other government agencies upon request. This information does not need to be submitted as part of the SWPCP.
 - i) Inspection, maintenance, repair and education activities as required by the SWPCP.
 - ii) Spills or leaks of significant materials that impacted or had the potential to impact storm water or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

ADDITIONAL REQUIREMENTS

- 3. **Oregon Administrative Rule (OAR) 340-44-50, Waste Disposal Wells for Surface Drainage**
OAR 340-44-50 requires that waste disposal wells for storm drainage only be used in those areas where there is an adequate confinement barrier or filtration medium between the well and an underground source of drinking water; and where construction of surface discharging storm sewers is not practical. In addition, this rule requires the following:
 - a) New storm drainage disposal wells shall be as shallow as possible but shall not exceed a depth of 100 feet.
 - b) Disposal wells shall be located at least 500 feet from domestic water wells.
 - c) Using a disposal well for agricultural drainage is prohibited.
 - d) Using a disposal well for surface drainage in areas where toxic chemicals or petroleum products are stored or handled is prohibited unless there is containment around the product area which will prevent spills and leaks from entering the well.
 - e) Any owner or operator of the disposal well shall have available a means of temporarily plugging or blocking the well in the event of an accident or spill.
 - f) Any area that is drained by a disposal well shall be kept clean of petroleum products and other organic or chemical wastes as much as practicable to minimize the degree of contamination of the storm water drainage.

4. **Oregon Administrative Rule 340-41-26(3)(a)(D), Surface Water Temperature Management Plan** Individual storm water discharges are not expected to cause a measurable increase in stream temperature. Compliance with this permit meets the requirement of OAR 340-41-26(3)(a)(D) to develop and implement a surface water temperature management plan. If it is determined that storm discharges in a particular basin are impacting a Total Maximum Daily Load for temperature, then permittees in this basin will be required to implement additional management practices to reduce the temperature of the discharges. These practices include, but are not limited to, increased vegetation to provide for shading, underground conveyance systems or detention vaults, and filter treatment systems to reduce detention times.
5. **Storm Water Only** This permit only regulates the discharge of storm water. It does not authorize the discharge or on-site disposal of process wastewater, wash water, boiler blowdown, cooling water, air conditioning condensate, deicing residues, or any other non-storm discharges associated with the facility.
- Any other wastewater discharge or disposal must be permitted in a separate permit. A separate Department permit may not be required if the wastewater is reused or recycled without discharge or disposal, or discharged to the sanitary sewer with approval from the local sanitary authority.
6. **Specific River Basin Requirements** The permittee shall comply with any Oregon Administrative Rule requirements for storm water management specific to the applicable river basin.
7. **Water Quality Standards** The ultimate goal for permittees is to comply with water quality standards in OAR 340-41. In instances where a storm water discharge adversely impacts water quality, the Department may require the facility to implement additional management practices, apply for an individual permit, or take other appropriate action.

CODE OF FEDERAL REGULATION STORM WATER DISCHARGE LIMITATIONS

8. The permittee with the following activities shall be in compliance with the applicable limitations at the time of permit assignment:

CFR Industry Category	Parameter	Limitation	
Cement manufacturing facilities for runoff from material storage piles (40 CFR §411)	pH Total Suspended Solids (TSS)	6.0 - 9.0 SU 50 mg/l	
Steam powered electric power generation facilities with coal handling and storage facilities (40 CFR §423)	TSS	50 mg/l, Daily Maximum	
Manufacturing of asphalt paving and roofing emulsions (40 CFR §443)	Oil & Grease	20 mg/l, Daily Maximum	15 mg/l, 30 Day Average
	pH	6.0 - 9.0 SU	

STORM WATER DISCHARGE BENCHMARKS

9. **Benchmarks** Benchmarks are guideline concentrations not limitations. They are designed to assist the permittee in determining if the implementation of their SWPCP is reducing pollutant concentrations to below levels of concern. For facilities that are subject to federal limitations, benchmarks apply to only those pollutants that are not limited by the federal regulations. The following benchmarks apply to each point source discharge of storm water associated with industrial activity:

Parameter	Benchmark
Total Copper	0.1 mg/l
Total Lead	0.4 mg/l
Total Zinc	0.6 mg/l
pH	5.5 - 9 S.U.
Total Suspended Solids	130 mg/l
Oil & Grease	10 mg/l
** E. coli	406 counts/100 ml
Floating Solids (associated with industrial activities)	No Visible Discharge
Oil & Grease Sheen	No Visible Sheen

** The benchmark for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

10. **Review of SWPCP** If benchmarks are not achieved, the permittee shall review their SWPCP within 60 days of receiving sampling results. The purpose of this review is to determine if the SWPCP is being followed and to identify any additional technically and economically feasible site controls that need to be implemented to further improve the quality of storm water discharges. These site controls include best management practices, spill prevention and response procedures, preventative maintenance, and employee education procedures as described in Schedule A.2.b.
- SWPCP Revision** Any newly identified site controls shall be implemented in a timely manner and incorporated into the SWPCP as an update. A new SWPCP is not required. If no additional site controls are identified, the permittee shall state as such in an update to the SWPCP.
 - SWPCP Revision Submittal** Results of this review shall be submitted to the Department in accordance with Schedule B.3 and made available upon request to government agencies responsible for storm water management in the permittee's area.
 - Background or Natural Conditions** If the permittee demonstrates that background or natural conditions not associated with industrial activities at the site cause an exceedance of a benchmark, then no further modifications to the SWPCP are required for that parameter. Upon successful demonstration of natural or background conditions through monitoring of the same storm event used to evaluate benchmarks the permittee would be eligible for the monitoring reduction as outlined in Schedule B.2.

**SCHEDULE B
MONITORING AND REPORTING REQUIREMENTS**

1. Minimum Monitoring Requirements

- a) All permittees shall monitor storm water associated with industrial activity for the following:

GRAB SAMPLES OF STORM WATER	
Parameter	Frequency
Total Copper	Twice per Year
Total Lead	Twice per Year
Total Zinc	Twice per Year
pH	Twice per Year
Total Suspended Solids	Twice per Year
Oil & Grease	Twice per Year
**E. coli	Twice per Year

**The monitoring for E.coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

VISUAL MONITORING OF STORM WATER	
Parameter	Frequency
Floating Solids (associated with industrial activities)	Once a Month (when discharging)
Oil & Grease Sheen	Once a Month (when discharging)

- b) **Grab Samples** Grab samples that are representative of the discharge shall be taken at least 60 days apart. It is preferred, but not required, that one sample be collected in the fall and one in the spring. Compositing of samples from different drainage areas is not allowed.
- c) **Multiple Point Source Discharges** The permittee may reduce the number of storm water monitoring points provided the outfalls have substantially identical effluents. Substantially identical effluents are discharges from drainage areas serving similar activities where the discharges are expected to be similar in composition. Outfalls serving areas with no exposure of storm water to industrial activities are not required to be monitored.
- d) **Monitoring Location** All samples shall be taken at monitoring points specified in the SWPCP before the storm water joins or is diluted by any other wastestream, body of water or substance.
- e) **No Exposure** If there is no exposure of storm water to material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery at the site, monitoring is not required. The permittee shall submit an annual statement certifying as such in lieu of monitoring (refer to Schedule B.3.b). If exposure cannot be prevented, the permittee shall comply with Schedule B.

2. **Monitoring Reduction**

a) **Visual Observations** There is no reduction allowed of the required visual observations.

~~b) **Grab Samples** The permittee is not required to conduct sampling if the benchmarks specified in Schedule A.9 are met, or if the exceedance is due to natural or background conditions for at least four consecutive storm water monitoring events over 24 continuous months. Note that there is no reduction in monitoring allowed for facilities subject to limitations under CFR (Schedule A.8).~~

- i) Results from sampling events cannot be averaged to meet the benchmarks.
- ii) Monitoring waivers may be allowed for individual parameters.
- iii) Parameters in exceedance or not previously sampled shall be monitored as required in Schedule B.1 until the monitoring waiver condition above is met.
- iv) Monitoring data from the previous permit period may be used to meet the waiver requirement. This data shall be evaluated against the benchmarks specified in this permit.
- v) Monitoring data from the same storm event shall be used to demonstrate that background or natural conditions not associated with industrial activities at the site are contributing to the exceedance of a benchmark.
- vi) The permittee shall submit written notification to the Department when exercising the monitoring waiver condition (refer to Schedule B.3.c).

c) **Reinstatement of Monitoring Requirements**

- i) The permittee shall conduct monitoring as specified in Schedule B.1 if changes to site conditions are expected to impact storm water discharge characteristics.
- ii) The Department may reinstate monitoring requirements as specified in Schedule B.1 if prior monitoring efforts were improper or results were incorrect.
- iii) Monitoring may also be reinstated if future sampling efforts indicate benchmarks are being exceeded.

3. **Reporting Requirements** The permittee shall submit the following to the appropriate DEQ regional office:

a) **Monitoring Data** The permittee shall submit by July 15 of each year grab sampling and visual monitoring data for the previous monitoring period (July 1- June 30). If there was insufficient rainfall to collect samples, the permittee shall notify the Department by July 15 of each year.

b) **No Exposure Certification** The permittee shall submit an annual certification by July 15 of each year if monitoring is not required due to no exposure of storm water to industrial activities. The certification shall state that site conditions have been evaluated and the facility meets the requirements of Schedule B.1.e.

c) **Monitoring Reduction Notification** The permittee shall submit written notification when exercising the monitoring reduction condition in Schedule B.2.b.

d) **SWPCP Update/Completion** The permittee shall prepare or update the SWPCP in accordance with Schedule C of the permit. The permittee shall submit an updated or completed SWPCP within 14 days after completion.

e) **SWPCP Revision** The permittee shall submit any revisions to the SWPCP required by Schedule A.10 within 14 days after the SWPCP is revised. If the Department does not review and comment on the revised SWPCP within 30 days, the permittee shall implement the revisions as proposed.

**SCHEDULE C
COMPLIANCE CONDITIONS AND SCHEDULES**

1. **Existing Permittee** (for a facility with an NPDES storm water discharge permit assigned prior to September 30, 1996):
 - a) Not later than 90 days after receiving this permit, the existing permittee shall revise and begin implementation of their SWPCP to meet any new permit requirements.
 - b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP shall be implemented within 90 days after revision of SWPCP. Site control activities that require capital improvements shall be completed in accordance with the schedule set forth in the SWPCP.
2. **New Permittee with Existing Facility** (for a facility operating prior to September 30, 1996, without an NPDES storm water discharge permit):
 - a) Not later than 90 days after receiving this permit, the new permittee shall prepare and begin implementation of their SWPCP.
 - b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP shall be implemented within 90 days after completion of SWPCP. Site control activities that require capital improvements shall be completed in accordance with the schedule set forth in the SWPCP.
3. **New Facility** (for a facility beginning operation after September 30, 1996):
 - a) Prior to starting operations, a new facility shall prepare and begin implementation of their SWPCP.
 - b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP shall be implemented within 90 days after beginning operation. Site control activities that require capital improvements shall be completed in accordance with the schedule set forth in the SWPCP.
4. **New Permittee Discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15) or North Santiam River.** Not later than 180 days after receiving this permit, new permittees discharging to Clackamas River, McKenzie River above Hayden Bridge (river mile 15) or North Santiam River shall submit to the Department a monitoring and water quality evaluation program. This program shall be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-41-470. Within 30 days after Department approval, the permittee shall implement the monitoring and water quality evaluation program. New permittees are defined to include potential or existing dischargers that did not have a permit, and existing dischargers that have a permit but request an increased load limitation.

**SCHEDULE D
SPECIAL CONDITIONS**

- ~~1. Releases in Excess of Reportable Quantities.~~ This permit does not relieve the permittee of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.
2. **Availability of SWPCP and Monitoring Data.** The Storm Water Pollution Control Plan and/or storm water monitoring data shall be made available to government agencies responsible for storm water management in the permittee's area.
3. **Definitions**
 - a) *Capital Improvements* means the following improvements that require capital expenditures:
 - i) Treatment best management practices including but not limited to settling basins, oil/water separation equipment, catch basins, grassy swales, and detention/retention basins.
 - ii) Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
 - iii) Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of storm water to treatment systems.
 - iv) Roofs and appropriate covers for manufacturing areas.
 - b) *Hazardous Materials* as defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.
 - c) *Material Handling Activities* include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.
 - d) *Point Source* means a discharge from any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, or conduit.
 - e) *Significant Materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with storm water discharges.

SCHEDULE F NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited unless:
 - (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under General Condition B.3.c.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated;
- (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
- (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean

Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

- a. Definitions
- (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
 - (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
 - (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.
- b. Prohibition of overflows. Overflows are prohibited unless:
- (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
 - (3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.
- c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.
- d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation

committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

~~Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.~~

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
- b. Any upset which exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - [Applicable to Publicly Owned Treatment Works (POTW) only]

The permittee must provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - [Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]

The permittee must notify the Department as soon as they know or have reason to believe of the following:

- a. ~~That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":~~
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

State of Oregon

Department of Environmental Quality

Memorandum

To: Holders of NPDES General Permit 1200 (D-W) Date: September 22, 1997
From: Rene C. Dulay
Subject: NPDES General Permit 1200Z Renewal

On July 22, 1997, the Department of Environmental Quality renewed the National Pollutant Discharge Elimination System (NPDES) General Permit 1200 (D, F, G, H, L, M, P, R, S, T, & W). These general permits cover the facilities identified in 40CFR§122.26(b)(14)(i-ix, xi) and with storm water discharges.

You should be aware of the following changes of the new permit which are as follows:

- The previous NPDES General Permits 1200 (D, F, G, H, L, M, P, R, S, T and W) were consolidated into one NPDES General Permit 1200Z. Table I on pages 2-3 shows the sources covered by the new permit.
- The Storm Water Pollution Control Plan (SWPCP) shall be prepared by a person knowledgeable in storm water management and familiar with the facility. It does not necessarily need a registered engineer or architect to review and stamped the SWPCP. The SWPCP shall be signed according to the procedures specified in the federal regulation, 40CFR§122.22. The SWPCP shall be submitted to the Department within 14 days after completion.
- If waste disposal wells will be used for surface drainage the requirements of Oregon Administrative Rules (OAR) 340-44-050 must be complied with. The wastewater that could be discharged to disposal wells is restricted to storm water only.
- Categorical industries such as cement manufacturing, steam powered electric power generation facilities with coal handling and storage facilities and asphalt paving and roofing emulsions manufacturing must meet their respective effluent limitations specified on page 7 of the permit.
- Benchmarks are established for pollutants of concern (see page 8) for each point source storm water discharge. The benchmarks are guideline concentrations and not limitations. Sampling frequency is specified in Schedule B. If the benchmarks are not achieved the SWPCP has to be reviewed within 60 days of receiving the sampling results and identify additional control to further improve the quality of the storm water discharge.

Please read the enclosed permit and be familiar with all the conditions and requirements including the conditions emphasized above.

If you have any questions regarding the permit please contact the Northwest Region office at 229-5552

NWMAR119145

Permit No. 101393
Expiration Date: 6/30/2001
File No. 70596
Page 1 of 15

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT
MODIFICATION NO. 1**

Department of Environmental Quality
2020 S.W. Fourth Avenue, Suite 400, Portland, OR 97201-4987
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO:

Cascade General, Inc.
Ship Repair Yard
Bldg. 50
5555 N. Channel Avenue
Portland, OR 97217

SOURCES COVERED BY THIS PERMIT

<u>Type of Waste</u>	<u>Outfall No.</u>	<u>Outfall Location</u>
Treated Ballast Water	001	R.M. 6.5
Treated Dry Docks Storm Water and Process Wastewater	002	R.M. 6.5
Untreated Noncontact Cooling Water from Ships in Dry Dock 4		
South Side	003	R.M. 6.5
North Side	004	R.M. 6.5
Untreated Noncontact Cooling Water from Ships in Dry Dock 3		
South Side	005	R.M. 6.5
North Side	006	R.M. 6.5
Untreated Noncontact Cooling Water from Ships in Dry Dock 1		
South Side	007	R.M. 6.5
North Side	008	R.M. 6.5

**PLANT TYPE AND
LOCATION:**

Ship Repair Yard
Swan Island
5555 N. Channel Avenue
Portland, Oregon 97217

RECEIVING STREAM INFORMATION:

Basin: Willamette
Sub-Basin: Lower Willamette
Receiving Stream: Willamette River
Hydro Code: 22--WILL 8.0 D
County: Multnomah

EPA REFERENCE NO :
OR 002294-2

Issued in response to Renewal Application No. 995559 received December 28, 1993, and request for modification received August 14, 1997, Application No. 991547. This modification replaces in its entirety the previous permit issued July 16, 1996.

Neil Mullane

Neil Mullane, Administrator
Northwest Region

MAY 08 1998

Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters and treated storm water only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	<u>Page</u>
Schedule A - Waste Discharge Limitations not to be Exceeded -----	2
Schedule B - Minimum Monitoring and Reporting Requirements-----	4
Schedule C - Compliance Conditions and Schedules -----	Not Applicable
Schedule D - Special Conditions -----	5
Schedule E - Pretreatment -----	Not Applicable
Schedule F - General Conditions -----	6

Unless authorized by another NPDES permit, each other direct and indirect waste discharge to public waters is prohibited.

SCHEDULE A Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

1. Outfall Number 001 (Treated Ballast Water):

Parameters	Limitations	
	Monthly Average	Daily Maximum
Flow	--	2650 L/min
pH	--	Within the range 6.0 - 9.0 s.u.
Oil & Grease	--	10 mg/L
Total Suspended Solids (TSS)	30 mg/L	50 mg/L

2. Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater):

Parameters	Limitations	
	Monthly Average	Daily Maximum
pH	--	Within the range 6.0 - 9.0 s.u.
Oil & Grease	8 mg/L	10 mg/L
Total Suspended Solids (TSS)	8 mg/L	10 mg/L
Copper	0.8 mg/L	1.0 mg/L
Lead	0.8 mg/L	1.0 mg/L
Zinc	0.8 mg/L	1.0 mg/L

3. Outfalls 003, 004, 005, 006, 007, and 008 [Untreated Noncontact Cooling Water from Ships in Dry Dock 4 (Outfalls 003 and 004); Untreated Noncontact Cooling Water from Ships in Dry Dock 3 (Outfalls 005 and 006); Untreated Noncontact Cooling Water from Ships in Dry Dock 1 (Outfalls 007 and 008):

Parameter	Limitations	
	Flowrate	Daily Maximum
Temperature, °C	0-126 L/s	35° C
Temperature, °C	126-189 L/s	30° C
Temperature, °C	>189 L/s	25° C

4. Supplemental Dilution: The permittee shall provide supplemental dilution of the Treated Dry Docks Storm Water and Process Wastewater (Outfall 002) of no less than 3 times the effluent flow.
5. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:

For Outfalls 001 and 002: The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 30 m from the points of discharge.

For Outfalls 003, 004, 005, 006, 007, and 008: The allowable mixing zone shall not exceed that portion of the Willamette River within 10 m in any direction from the exterior wall of Dry Dock 4, Dry Dock 3, or Dry Dock 1.

6. Compliance with water quality standards and the effluent limits specified above are required at the following locations:
 - A. Outfall 001: This outfall is defined as the discharge pipe from the holding tanks used to hold the treated ballast water for testing prior to discharge into the Willamette River. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.
 - B. Outfall 002: This outfall is defined as the discharge from the final stage of the dry docks storm water treatment plant. Sampling must be conducted and compliance will be determined at the point that the treatment plant effluent is discharged into the outfall prior to downstream supplemental dilution. Compliance with water quality standards shall be achieved after supplemental dilution.
 - C. Outfall 003: This outfall is defined as the discharge from the south sally ports of Dry Dock 4. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the south sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
 - D. Outfall 004: This outfall is defined as the discharge from the north sally ports of Dry Dock 4. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the north sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
 - E. Outfall 005: This outfall is defined as the discharge from the south sally ports of Dry Dock 3. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the south sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.

- F. Outfall 006: This outfall is defined as the discharge from the north sally ports of Dry Dock 3. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the north sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
- G. Outfall 007: This outfall is defined as the discharge from the south sally ports of Dry Dock 1. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the south sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
- H. Outfall 008: This outfall is defined as the discharge from the north sally ports of Dry Dock 1. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the north sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
7. Contaminated storm water and process wastewater generated on the dry docks at a rate that exceeds the total storage capacity of 3400 m³ and the treatment flowrate of 272 m³/d may be discharged directly to the Willamette River without treatment, providing the applicable BMPs for the dry docks are in effect at the time. Non-process segregated water generated on the dry docks at a rate that, when combined with contaminated storm water and process wastewater, would exceed the individual capacities of conveyance systems on the dry docks, may be discharged directly to the Willamette River without treatment, only to the extent necessary to avoid an upset and discharge of contaminated water.
8. If no work is being performed on the dry docks and the dry docks have been cleaned, then water from the docks can be discharged directly to the Willamette River without treatment.
9. Designed overflows and the discharge of contaminated storm water and essentially uncontaminated storm water directly to the Willamette River are specifically allowed by this permit. Such discharges are not subject to the prohibitions and reporting requirements specified in the NPDES General Conditions, Schedule F.
10. The ballast water system shall not discharge at the same time that the dry docks storm water treatment system is discharging.

SCHEDULE B
Minimum Monitoring and Reporting Requirements

1. Outfall Number 001 (Treated Ballast Water):

Item or Parameter	Minimum Frequency	Type of Sample
Flow	1 time per batch discharge	Measurement, Grab
pH	1 time per batch discharge	Grab
Oil & Grease	1 time per batch discharge	Grab
Total Suspended Solids (TSS)	1 time per batch discharge	Grab

2. Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater):

Item or Parameter	Minimum Frequency	Type of Sample
Flow, Excluding Supplemental Dilution	Daily Total (Note 1)	Measurement, Totalizer
Flow, Supplemental Dilution	Daily Total (Note 1)	Estimate
pH	1/Week (Note 1)	Grab
Oil & Grease	1/Month (Note 1)	Grab
Total Suspended Solids (TSS)	1/Week (Note 1)	Composite
Copper	1/Week (Note 1)	Composite
Lead	1/Week (Note 1)	Composite
Zinc	1/Week (Note 1)	Composite
Note 1: During discharge periods.		

- Outfalls 003, 004, 005, 006, 007, and 008 [Untreated Noncontact Cooling Water from Ships in Dry Dock 4 (Outfalls 003 and 004); Untreated Noncontact Cooling Water from Ships in Dry Dock 3 (Outfalls 005 and 006); Untreated Noncontact Cooling Water from Ships in Dry Dock 1 (Outfalls 007 and 008):

Item or Parameter	Minimum Frequency	Type of Sample
Temperature, °C	Daily from each outfall in use	Grab
Flowrate, L/s	Daily from intake water meter for each outfall in use	Grab

- Reporting Procedures: Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month. All data shall be reported in the International System of Units (S.I.).
- Annually the permittee shall sample the storm water that exceeds the capacity of the dry docks collection, storage, and treatment system and that must be discharged directly to the Willamette River without treatment at the same time that ship repair activities are underway. The ship repair activities occurring, and BMPs in use, at the time the sample is collected shall be noted. Samples shall be analyzed for: pH, oil & grease, total suspended solids, copper, lead, and zinc. The sample results shall be submitted annually to the Department with an estimate of the frequency of occurrence of such direct discharge during the year. No sample is required if there is no storm event that causes an exceedence of the capacity of the treatment system at the same time that ship repair activities are underway.

SCHEDULE D Special Conditions
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- By March 1 annually, the permittee shall update the Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard to incorporate solutions to problems or new practices learned during the previous calendar year. The permittee shall notify the Department that the BMPs have been updated and shall summarize the changes implemented or proposed to improve the BMPs for the upcoming year.
- The permittee shall ensure that all applicable Environmental Best Management Practices are employed at all times.
- After operations on a vessel, the dry docks shall be thoroughly cleaned before submergence.

4. Floating containment booms shall be placed around all ships while transferring fuel in the ship yard. Permanent oil containment booms shall be installed on the inside of the most out board pier pilings and around all dry dock areas.
5. Sanitary wastes shall be discharged to the City of Portland municipal sewage system.
6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
7. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.
8. Additional Limitations or Monitoring Required: If monitoring indicates that certain pollutants are being discharged in quantities that may be a threat to the water quality of the receiving stream, the permit may be reopened and additional effluent limits and/or monitoring requirements added.

SCHEDULE F
NPDES General Conditions

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited unless:
 - (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under General Condition B.3.c.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
 - (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

- (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or

overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

- b. Prohibition of overflows. Overflows are prohibited unless:
 - (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
 - (3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.
- c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.
- d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;

- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this

permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
- b. Any upset which exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony, punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - [Applicable to Publicly Owned Treatment Works (POTW) only]

The permittee must provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - [Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]

The permittee must notify the Department as soon as they know or have reason to believe of the following:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;

- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
- (4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

- 1. BOD means five-day biochemical oxygen demand.
- 2. TSS means total suspended solids.
- 3. mg/L means milligrams per liter.
- 4. kg means kilograms.
- 5. m³/d means cubic meters per day.
- 6. MGD means million gallons per day.
- 7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
- 8. FC means fecal coliform bacteria.
- 9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
- 10. CBOD means five day carbonaceous biochemical oxygen demand.
- 11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
- 12. Quarter means January through March, April through June, July through September, or October through December.
- 13. Month means calendar month.
- 14. Week means a calendar week of Sunday through Saturday.
- 15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
- 16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
- 17. POTW means a publicly owned treatment works.

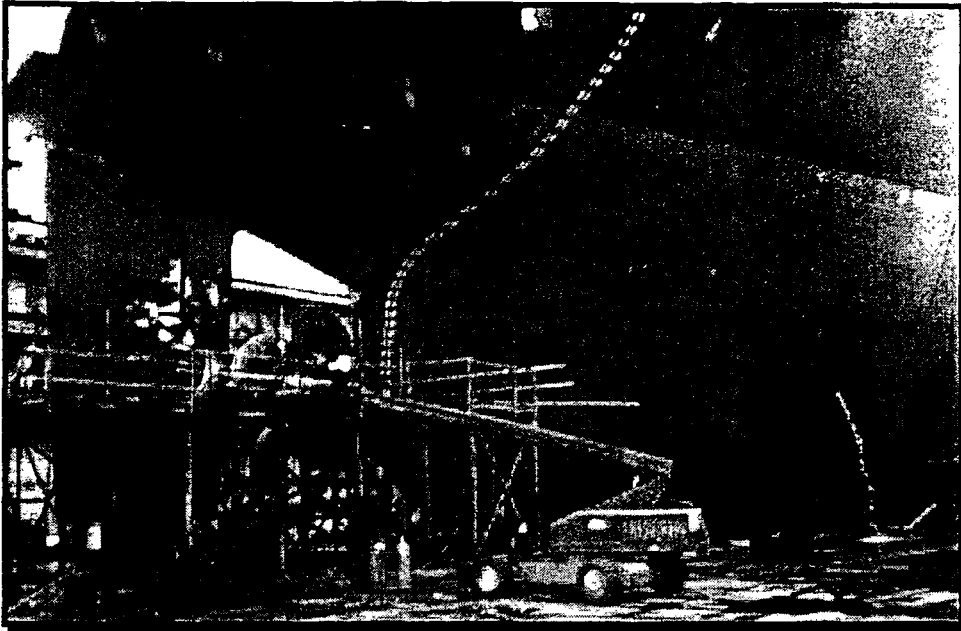


Figure 6 - Dry Dock No. 4

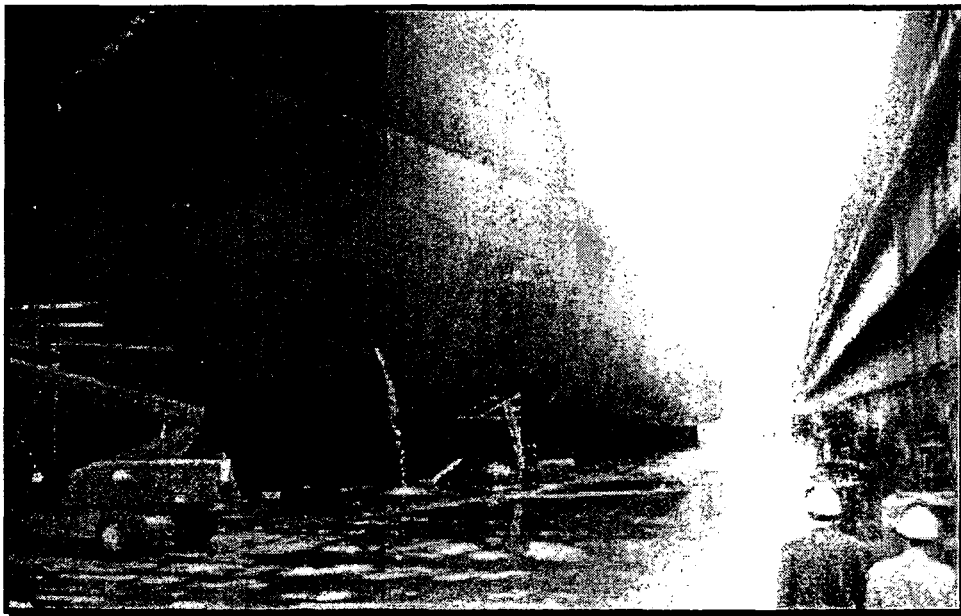


Figure 7 - Dry Dock 4



Figure 4 - Dry Dock No. 1



Figure 5 - Dry Dock No. 3

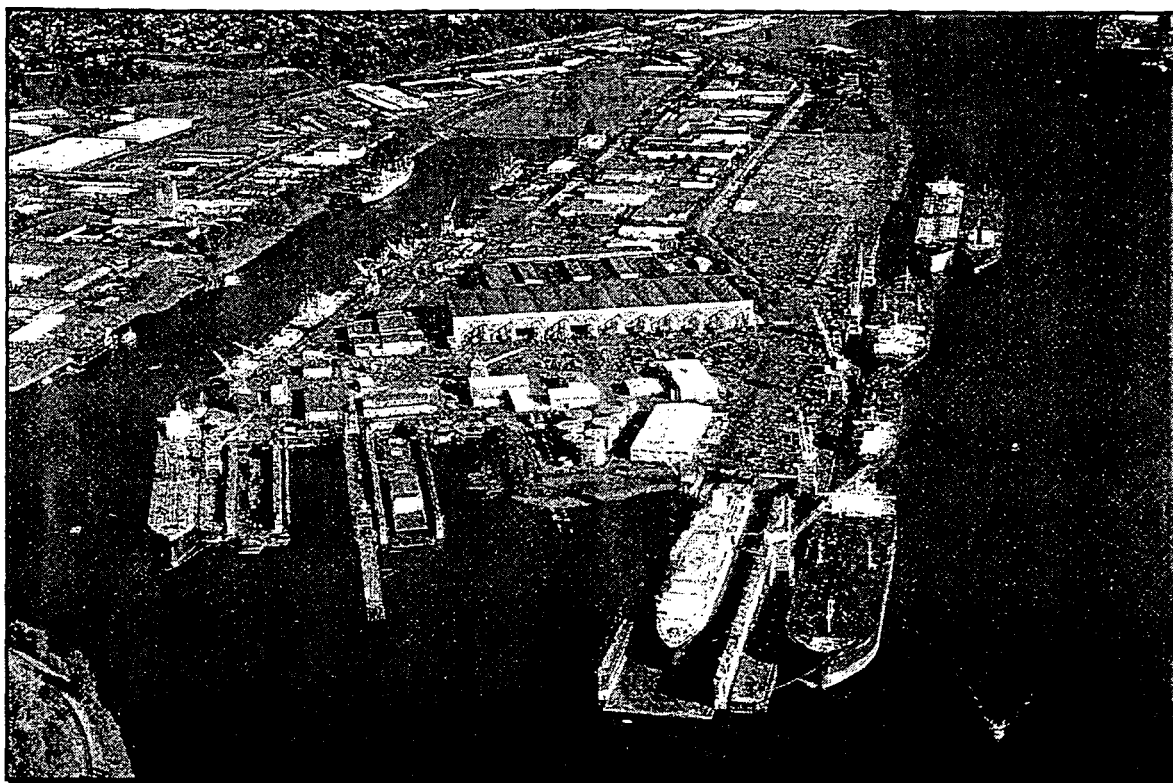


Figure 2 - Ship Repair Yard

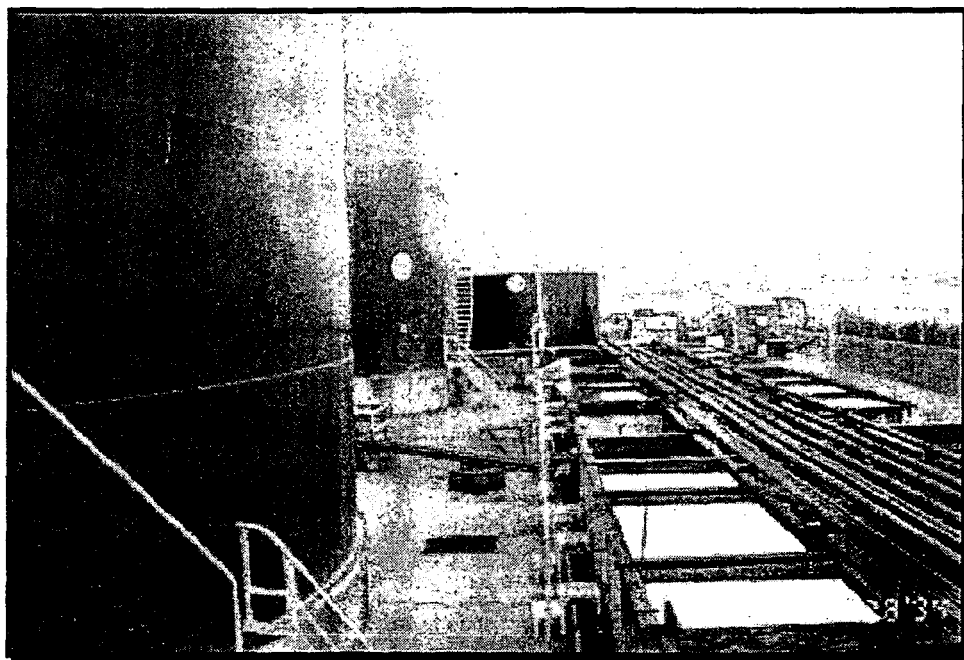


Figure 3 - Ballast Water Treatment System



Figure 1 - Dry Docks Site Plan

Appendix A

Existing NPDES Permit

JAS

Permit No. 101393
Expiration Date: 06/30/2001
File No. 70596
Page 1 of 13

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

Department of Environmental Quality
2020 S.W. Fourth Avenue, Suite 400, Portland, OR 97201-4987
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

TRANSFERRED: 9/2/96

Port of Portland Cascade General, Inc.
Ship Repair Yard 5555 N Channel Av
P.O. Box 3529 Bldg. 50
Portland, Oregon 97208 97217

PLANT TYPE AND LOCATION:

Ship Repair Yard
Swan Island
5555 N. Channel Avenue
Portland, Oregon 97217

SOURCES COVERED BY THIS PERMIT

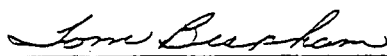
Type of Waste	Outfall No.	Outfall Location
Treated Ballast Water	001	R.M. 6.5
Treated Dry Docks Storm	002	R.M. 6.5
Water and Process Wastewater		

RECEIVING STREAM INFORMATION:

Basin: Willamette
Sub-Basin: Lower Willamette
Receiving Stream: Willamette River
Hydro Code: 22 --WILL 8.0 D
County: Multnomah

EPA REFERENCE NO : OR 002294-2

Issued in response to Renewal Application No. 995559 received December 28, 1993.


Tom Bispham, Administrator
Northwest Region

07-16-96
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters and treated storm water only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	Page
Schedule A - Waste Discharge Limitations not to be Exceeded	2
Schedule B - Minimum Monitoring and Reporting Requirements	3
Schedule C - Compliance Conditions and Schedules	4
Schedule D - Special Conditions	4
Schedule E - Pretreatment	Not Applicable
Schedule F - General Conditions	5-13

Unless authorized by another NPDES permit, each other direct and indirect waste discharge to public waters is prohibited.

NWMAR119166

SCHEDULE A
Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

1. Outfall Number 001 (Treated Ballast Water)

Parameters	Limitations	
	Monthly Average	Daily Maximum
Flow	--	2650 l/min
pH	--	Within the range 6.0 - 9.0 s.u.
Oil & Grease	--	10 mg/l
Total Suspended Solids (TSS)	30 mg/l	50 mg/l

2. Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater)

Parameters	Limitations	
	Monthly Average	Daily Maximum
pH	--	Within the range 6.0 - 9.0 s.u.
Oil & Grease	8 mg/l	10 mg/l
Total Suspended Solids (TSS)	8 mg/l	10 mg/l
Copper	0.8 mg/l	1.0 mg/l
Lead	0.8 mg/l	1.0 mg/l
Zinc	0.8 mg/l	1.0 mg/l

3. Supplemental Dilution: The permittee shall provide supplemental dilution of the Treated Dry Docks Storm Water and Process Wastewater (Outfall 002) of no less than 3 times the effluent flow.

4. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:

The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 30 m from the points of discharge.

5. Compliance with water quality standards and the effluent limits specified above are required at the following locations:

A. Outfall 001: This outfall is defined as the discharge pipe from the holding tanks used to hold the treated ballast water for testing prior to discharge into the Willamette River. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.

B. Outfall 002: This outfall is defined as the discharge from the final stage of the dry docks storm water treatment plant. Sampling must be conducted and compliance will be determined at the point that the treatment plant effluent is discharged into the outfall prior to downstream supplemental dilution. Compliance with water quality standards shall be achieved after supplemental dilution.

6. Contaminated storm water and process wastewater generated on the dry docks at a rate that exceeds the storage and treatment capacity of the dry docks storm water treatment system of 757 m³/day may be discharged directly to the Willamette River without treatment, providing the applicable BMPs for the dry docks are in effect at the time.

7. If no work is being performed on the dry docks and the dry docks have been cleaned, then water from the docks can be discharged directly to the Willamette River without treatment.

8. Designed overflows and the discharge of contaminated storm water and essentially uncontaminated storm water directly to the Willamette River are specifically allowed by this permit. Such discharges are not subject to the prohibitions and reporting requirements specified in the NPDES General Conditions, Schedule F.

SCHEDULE B
Minimum Monitoring and Reporting Requirements
(unless otherwise approved in writing by the Department)

1. Outfall Number 001 (Treated Ballast Water):

Item or Parameter	Minimum Frequency	Type of Sample
Flow	1 time per batch discharge	Measurement, Grab
pH	1 time per batch discharge	Grab
Oil & Grease	1 time per batch discharge	Grab
Total Suspended Solids (TSS)	1 time per batch discharge	Grab

2. Outfall Number 002 (Treated Dry Docks Storm Water and Process Wastewater):

Item or Parameter	Minimum Frequency	Type of Sample
Flow, Excluding Supplemental Dilution	Daily Total*	Measurement, Totalizer
Flow, Supplemental Dilution	Daily Total *	Estimate
pH	1/Week*	Grab
Oil & Grease	1/Month*	Grab
Total Suspended Solids (TSS)	1/Week*	Composite
Copper	1/Week*	Composite
Lead	1/Week*	Composite
Zinc	1/Week*	Composite

* During discharge periods.

3. Reporting Procedures: Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month. All data shall be reported in the International System of Units (S.I.).
4. Annually the permittee shall sample the storm water that exceeds the capacity of the dry docks collection, storage, and treatment system and that must be discharged directly to the Willamette River without treatment at the same time that ship repair activities are underway. The ship repair activities occurring, and BMPs in use, at the time the sample is collected shall be noted. Samples shall be analyzed for: pH, oil & grease, total suspended solids, copper, lead, and zinc. The sample results shall be submitted annually to the Department with an estimate of the frequency of occurrence of such direct discharge during the year. No sample is required if there is no storm event that causes an exceedence of the capacity of the treatment system at the same time that ship repair activities are underway.

FROM DATE CASCADE GEN ASSUMED RESPONSIBILITY JUNE 1995

SCHEDULE C
Compliance Conditions and Schedules

1. Within 90 days of permit issuance, the permittee shall submit for review an updated report of Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard. At a minimum, the updated report shall include:
 - A. The additional BMPs recommended in the *Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System*, dated May 3, 1995.
 - B. The procedures that will be followed to minimize the discharge of contaminated storm water during storm events that cause runoff from the dry docks to exceed the treatment capacity of the Dry Docks Storm Water Storage and Treatment System (Outfall 002). These procedures are generally described in the *Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System*, dated May 3, 1995.
 - C. BMPs previously included in Schedule D of the previous permit (No. 100628).
 - D. Other BMPs to minimize the generation of wastes during repair activities and the management and restriction of wastes that may enter the waters of the state.
 - E. Operational procedures for the Dry Docks Water Containment and Treatment System.
 - F. Where appropriate, diagrams and/or photos shall be utilized to explain the particular BMP.
 - G. A description of quality control and quality assurance procedures that will be utilized to ensure that applicable BMPs are followed.
 - H. The updated report shall identify responsibilities for implementing the particular BMPs.

SCHEDULE D
Special Conditions

1. By March 1 annually, the permittee shall update the Environmental Best Management Practices (BMPs) for the Portland Ship Repair Yard to incorporate solutions to problems or new practices learned during the previous calendar year. The permittee shall notify the Department that the BMPs have been updated and shall summarize the changes implemented or proposed to improve the BMPs for the upcoming year.
2. The permittee shall ensure that all applicable Environmental Best Management Practices are employed at all times.
3. After operations on a vessel, the dry docks shall be thoroughly cleaned before submergence.
4. Floating containment booms shall be placed around all ships while transferring fuel in the ship yard. Permanent oil containment booms shall be installed on the inside of the most out board pier pilings and around all dry dock areas.
5. Sanitary wastes shall be discharged to the City of Portland municipal sewage system.
6. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.
7. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.
8. Additional Limitations or Monitoring Required: If monitoring indicates that certain pollutants are being discharged in quantities that may be a threat to the water quality of the receiving stream, the permit may be reopened and additional effluent limits and/or monitoring requirements added.

(PAGES 5-13 ARE GENERAL CONDITIONS)

Appendix B

Application for Modification of NPDES Permit



DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

AUG 14 1997

NORTHWEST REGION

August 6, 1997

Mr. Jim Sheetz
Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland Oregon 97201-4987

Subject: Request for NPDES Permit Modification
Cascade General, Inc./Portland Shipyard
Portland, Oregon
NPDES Permit No. 101393

Dear Mr. Sheetz:

Cascade General, Inc. requests the modification of the above referenced NPDES permit to include the addition of six outfalls for the discharge of non-contact cooling water from vessels on dry dock to the Willamette River. Two outfalls will be located on each of the three dry docks (DDs 1, 3, and 4). The attached figure shows the general locations of the proposed outfalls.

Non-contact cooling water is associated with ship systems such as refrigeration, air conditioning, and heat exchangers. Water is pumped from the river, circulated within a closed system, and then discharged. Coast Guard regulations allow ships both under power and at berth to discharge non-contact cooling water directly to surface water. However, under the current NPDES permit, Cascade is required to capture and treat this water once the vessel is raised on dry dock. The volume of this water can be quite large (in excess of 200,000 gallons an hour), and far exceeds the capacity of Cascade's water treatment plant for the dry docks. More importantly, this water is discharged by ships when not on dry dock, and causes minimal, if any, environmental impact.

Attached are laboratory results for samples collected from discharging non-contact cooling water and from the Willamette River. Sample 06-04-97-SWCS is from non-contact cooling water. Sample 06-04-97-River is from the Willamette River near Dry Dock 4. The temperature of each sample was also measured at the time of collection, and is recorded on the chain of custody records.

We wish to move forward with the permit modification as soon as possible due to scheduled dry dock work requiring the discharge of non-contact cooling water. Accordingly, if we can provide the Department any additional information or answer any questions, please do not hesitate to contact the undersigned at 247-1672. We appreciate your assistance in this matter.

Sincerely,



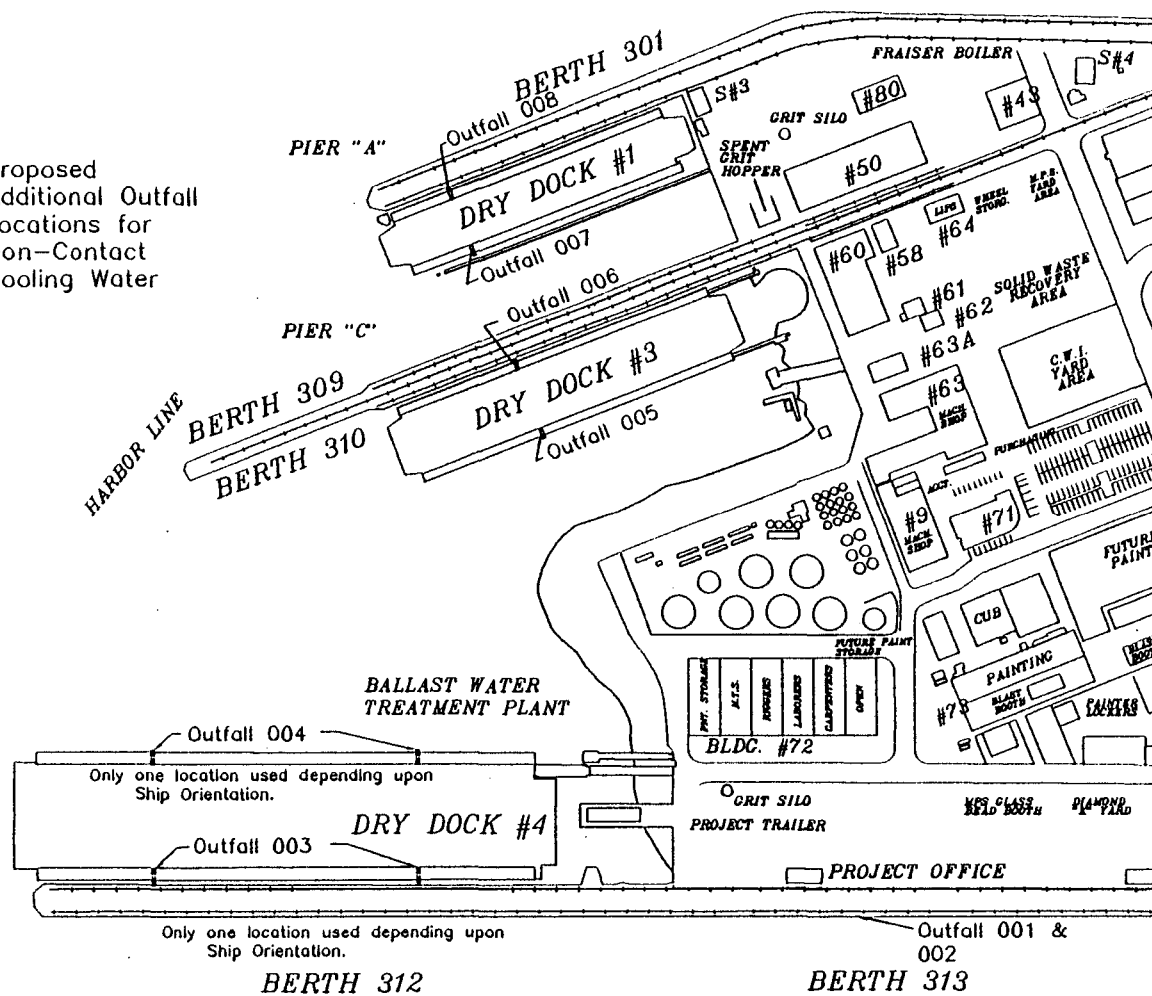
T. Alan Sprott
Director of Environmental Services

Enclosure

cc: Wayne E. Cozad

TAS/

Proposed
Additional Outfall
Locations for
Non-Contact
Cooling Water



CASCADE GENERAL

PORTLAND SHIPYARD

PROPOSED DRYDOCK OUTFALL LOCATIONS

SHEET
1

OAL

CASCADE GENERAL
P.O. BOX 4367
PORTLAND, OR 97208

ANALYST REVIEW BY: RS/CV/NG DATE: 6/18/97
DATA PACK REVIEW BY: SL DATE: 6/18/97

ROBERT COATES
285-1111 EX388/978-0696FAX
JOB# 960-200

DATA SHEET WATER

SAMPLE ID:
OAL ID: 25-J346-
SAMPLE DATE:

06-04-97-SWCS
59309
6/4/97



SHIP NONCONTACT
COOLING WATER
SAMPLE

ANALYSIS	METHOD(S)	
PH	EPA 150.1/9040	7.8
SUSP. SOLIDS PPM	EPA 160.2	<10.
OIL&GREASE MG/L	EPA 413.1	<5.
DIGESTION	EPA 200.2/3050	6/9/97
ARSENIC PPM	EPA 200.7/6010	<0.050
BARIUM PPM	EPA 200.7/6010	0.0232
CADMIUM PPM	EPA 200.7/6010	<0.002
CHROMIUM PPM	EPA 200.7/6010	0.0073
LEAD PPM	EPA 200.7/6010	0.035
SELENIUM PPM	EPA 200.7/6010	<0.050
SILVER PPM	EPA 200.7/6010	<8.003
MERCURY PPM	EPA 245.2/7471	<0.0002



Pb = 0.035 mg/L
NON CONTACT COOLING WATER

OREGON ANALYTICAL LABORATORY

A Division of Portland General Electric

14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007

Phone 503-590-5300 • Fax 503-590-1404



CASCADE GENERAL
P.O. BOX 4367
PORTLAND, OR 97208

ANALYST REVIEW BY: RJ/w/km DATE: 6/16/97
DATA PACK REVIEW BY: SL DATE: 6/16/97

ROBERT COATES
285-1111 EX388/978-0696FAX
JOB# 960-200

DATA SHEET
WATER

SAMPLE ID:
OAL ID: 25-J346-
SAMPLE DATE:

06-04-97-RIVER
59308
6/4/97

← WILLAMETTE RIVER
SAMPLE

ANALYSIS	METHOD(S)	
PH	EPA 150.1/9040	7.6
SUSP. SOLIDS PPM	EPA 160.2	<10.
OIL&GREASE MG/L	EPA 413.1	<5.
DIGESTION	EPA 200.2/3050	6/9/97
ARSENIC PPM	EPA 200.7/6010	<0.050
BARIUM PPM	EPA 200.7/6010	0.0075
CADMIUM PPM	EPA 200.7/6010	<0.002
CHROMIUM PPM	EPA 200.7/6010	<0.005
LEAD PPM	EPA 200.7/6010	<0.025
SELENIUM PPM	EPA 200.7/6010	<0.050
SILVER PPM	EPA 200.7/6010	<0.003
MERCURY PPM	EPA 245.2/7471	<0.0002

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A Division of Portland General Electric

14855 S.W. Old Scholls Ferry Road, Beaverton, OR 97007

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Printed on recycled paper 

NWMAR119175



5555 N. Channel Avenue
Portland, Oregon 97217
P.O. Box 4367, (97208)
Phone (503) 285-1111 Fax (503) 285-1256 247-1391

CHAIN OF CUSTODY RECORD

Page: 1 of 1

Vessel Name: Independence Job No.: 960-200 Item No.: _____ PO No.: _____

Location of Sample Collection (Physical Description of Site): Vessel's ^{STARBUCKS} ~~Starbucks~~ side Cooling system Discharge Port

Sampler Signature: [Signature] Project Manager: Robert Cortes Temp: 84.4° F

18°C

Laboratory: CAL Phone No.: _____

Fax Results: ☒ Yes ☐ No ☐ Rush ☒ Standard

INSTRUCTIONS and COMMENTS:

Project Name:

APDAS No: 101393 SUCS PD#4 Abn-Contact Cooling Water

Recommendation: sampler signature and date, time, and initials should be completed.

FIELD IDENTIFICATION	Date Sampled	Time Sampled	Sampler Initials	This area for lab use only 25-J346- Lab File ID	Appropriate Container										Matrix																				
					Preservative	Sludge	Oil	Soil	Water	Composite Sample	Grab Sample	Test Representative Sample	Test One Phase	Test Each Phase Separately	Flash Point	EMCC	SETA	CC	140°	200°	Total Cone Metals	8 Metals	Metals	TCLP	8 Metals	Metals	TCLP	volatile	semi-volatile	Oil & Grease	Total	Polar/Non-Polar	Sulfur	Solvent Scan	PCB
CG 01-97-5145	6-4-97	1400	RL	59309	✓	✓				✓	✓																								
CG 04-97-5146	6-4-97	1400	RL		✓	✓				✓	✓																								
CG 04-97-5147	6-4-97	1400	RL		✓	✓				✓	✓																								

Relinquished by (Name) PRINT NAME: <u>Robert Cortes</u>	TIME 10:40	DATE 6/5	Relinquished by PRINT NAME: _____	TIME _____	DATE _____
SIGNATURE: <u>[Signature]</u>	Company _____	SIGNATURE: _____	Company _____	TIME 1210	DATE 6/5/97
Received by: Print Name: <u>Doug McKenzie</u>	TIME 1210	DATE 6/5/97	Received by: PRINT NAME: _____	TIME _____	DATE _____
SIGNATURE: <u>[Signature]</u>	Company CAL	SIGNATURE: _____	Company _____	TIME _____	DATE _____

NWMMAR119176



5555 N. Channel Avenue
Portland, Oregon 97217
P.O. Box 4367, (97208)
Phone (503) 285-1111 Fax (503) 285-1256

CHAIN OF CUSTODY RECORD

Page

1 of 1

Vessel Name: R/V SAMPK Annapolis Job No.: 960-200 Item No.: _____ PO No.: _____

Location of Sample Collection (Physical Description of Site): Starboard SAMPK R/T (RWSide) - River Sample

Sampler Signature: R. McKenzie Project Manager: Robert Cortes Temp: 61.9° F

16.6°C

Laboratory: CAL Phone No.: _____

Fax Results: ☒ Yes ☐ No ☐ Rush ☒ Standard

INSTRUCTIONS and COMMENTS:

Project Name:

UPDES 101393 River SAMPK

Recommendation: sampler signature and date, time, and initials should be completed.

FIELD IDENTIFICATION	Date Sampled	Time Sampled	Sampler Initials	This area for lab use only		Appropriate Container	Preservative	MATRIX				Sample Type	Sub-Sample	Flash Point	Total Cone Metals	TCCLP	TCCLP	Oil & Grease	Sulfur	Solvent Scan	PCB	Ammonia	158/PH
				Lab File	ID			Sludge	Oil	Soil	Water												
CE-04-97-River	6-4-97	1430	RM	59308																			
CE-04-97-River	6-4-97	1430	RM																				
CE-04-97-River	6-4-97	1430	RM																				

Relinquished by (Carrier) PRINT NAME: <u>R. McKenzie</u>	TIME: <u>12:10</u> DATE: <u>6-4-97</u>	Relinquished by PRINT NAME: _____	TIME: _____ DATE: _____
SIGNATURE: <u>R. McKenzie</u>	Company: <u>CAL</u>	SIGNATURE: _____	Company: _____
Received by: Print Name: <u>Doug McKenzie</u>	TIME: <u>12:10</u> DATE: <u>6-4-97</u>	Received by PRINT NAME: _____	TIME: _____ DATE: _____
SIGNATURE: <u>Doug McKenzie</u>	Company: <u>CAL</u>	SIGNATURE: _____	Company: _____

NVMMAR119177

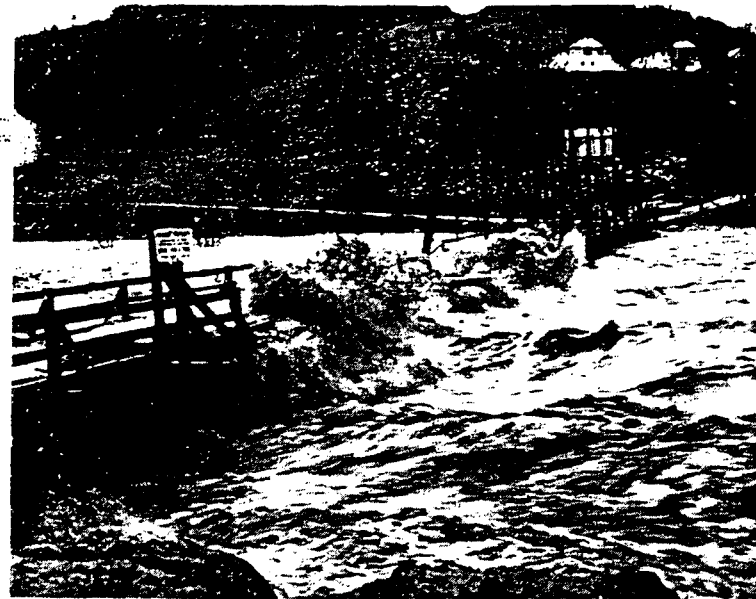
Appendix C

USGS Streamflow Data, Willamette River

Zoe

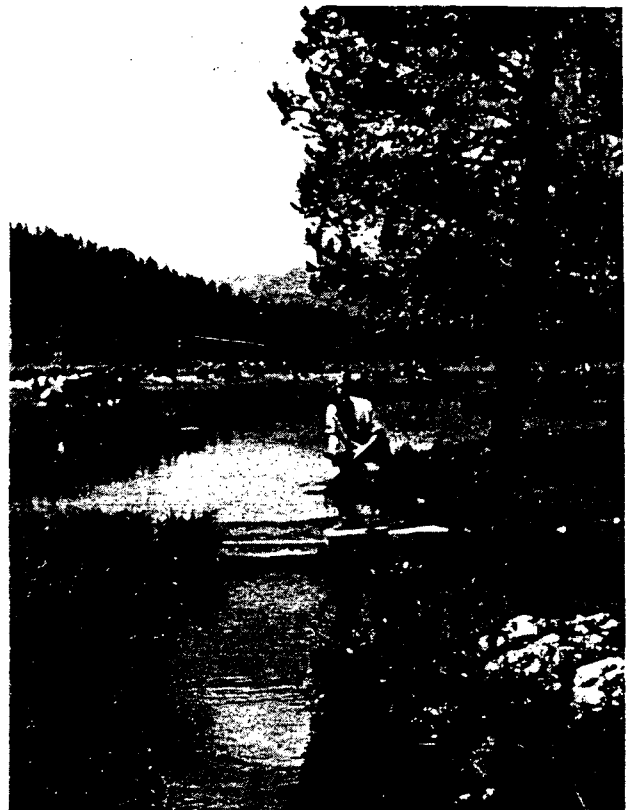
U.S. GEOLOGICAL SURVEY
Open-File Report 93-63

Prepared in cooperation with the
OREGON WATER RESOURCES DEPARTMENT



STATISTICAL SUMMARIES OF STREAMFLOW DATA IN OREGON:

VOLUME 2--ANNUAL LOW AND HIGH FLOW, AND INSTANTANEOUS PEAK FLOW



NWMAR119179

WILLAMETTE RIVER BASIN

14211720 WILLAMETTE RIVER AT PORTLAND, OR
(National stream quality accounting network station)

LOCATION.--Lat 45°31'07", long 122°40'00", in NW 1/4 NE 1/4 sec.3, T.1 S., R.1 E., Multnomah County, Hydrologic Unit 17090012, in pier at east end of drawspan, on upstream side of Morrison Bridge, in Portland, and at mile 12.8.

DRAINAGE AREA.--11,100 mi², approximately.

PERIOD OF RECORD.--October 1972 to 1987. Gage-height records collected in this vicinity since 1879 are in reports of the National Weather Service.

GAGE.--Acoustic velocity meter (AVM) with water-stage and velocity-index recorder. Datum of gage is 1.55 ft above National Geodetic Vertical Datum of 1929 (levels by National Weather Service).

REMARKS.--Flow regulated by many reservoirs upstream. Many diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--15 years, 33,310 ft³/s, 24,130,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 283,000 ft³/s Jan. 18, 1974; maximum gage height, 23.84 ft Jan. 18, 1974; minimum daily discharge, 4,200 ft³/s July 10, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of June 7, 1894, and June 1, 1948, reached stages of 33.0 ft and 30.0 ft, respectively, from information by National Weather Service.

STATISTICAL SUMMARIES

(n = number of values used to compute statistics)

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW BASED ON PERIOD OF RECORD 1974-1987

PERIOD (CON- SEC- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL NON- EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	20	50	100
		50%	20%	10%	5%	2%	1%
1	14	6760	5520	4910	4430	--	--
3	14	7000	5960	5480	5120	--	--
7	14	7290	6350	5910	5580	--	--
14	14	7420	6520	6100	5780	--	--
30	14	7730	6850	6460	6170	--	--
60	14	8280	7390	7020	6760	--	--
90	14	9310	8160	7620	7210	--	--
120	14	10800	9300	8520	7900	--	--
183	14	13900	11500	10500	9700	--	--

1 Q 10
7 Q 10

⇒ 139 m³/s
⇒ 167.4 m³/s

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW BASED ON PERIOD OF RECORD 1973-1987

PERIOD (CON- SEC- TIVE DAYS)	n	DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT					
		2	5	10	25	50	100
		50%	20%	10%	4%	2%	1%
1	15	170100	215400	234900	251700	--	--
3	15	164100	208100	226700	242400	--	--
7	15	147300	181900	194700	204200	--	--
15	15	123300	145200	151200	154600	--	--
30	15	103600	119600	123100	124700	--	--
60	15	81900	101200	107900	112500	--	--
90	15	70400	91100	100600	109200	--	--

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW BASED ON PERIOD OF RECORD

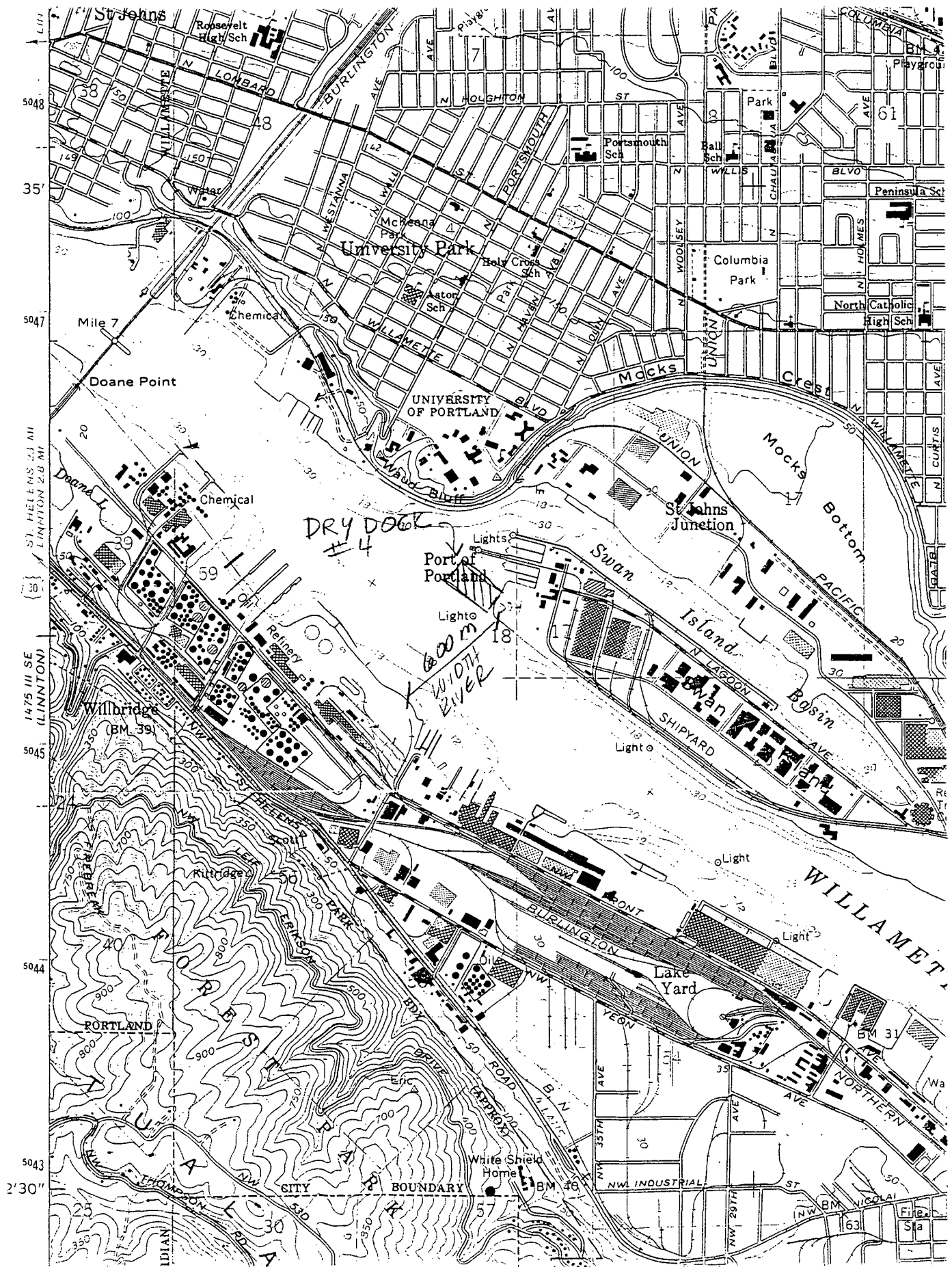
DISCHARGE, IN FT ³ /S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND ANNUAL EXCEEDANCE PROBABILITY, IN PERCENT							
1.25	2	5	10	25	50	100	
80%	50%	20%	10%	4%	2%	1%	
--	--	--	--	--	--	--	--

Systematic n = -- historical n = --
Generalized 17b skew = --



Appendix D

USGS Map, Willamette River



Appendix E

Extract from Oregon Administrative Rules, Chapter
340, Division 41

OREGON ADMINISTRATIVE RULES
CHAPTER 340, DIVISION 41 - DEPARTMENT OF ENVIRONMENTAL QUALITY

conditions or allowing them to revert to conditions attaining the coolest surface water temperatures possible under natural background conditions;

(E) Waters of the state exceeding the temperature criteria will be identified in the Clean Water Act (CWA), Section 303(d) list developed by the Department according to the schedule required by the Clean Water Act. This list will be prioritized in consultation with the DMAs to identify the order in which those waters will be addressed by the Department and the DMAs;

(F) In basins determined by the Department to be exceeding the numeric temperature criteria, and which are required to develop surface water temperature management plans, new or increased discharge loads from point sources which require an NPDES permit under Section 402 of the Clean Water Act or hydro-power projects which require certification under Section 401 of the Clean Water Act are allowed a 1.0°F total cumulative increase in surface water temperatures as the surface water temperature management plan is being developed and implemented for the water quality limited basin if:

(i) In the best professional judgment of the Department, the new or increased discharge load, even with the resulting 1.0°F cumulative increase, will not conflict with or impair the ability of a surface water temperature management plan to achieve the numeric temperature criteria; and

(ii) A new or expanding source must demonstrate that it fits within the 1.0°F increase and that its activities will not result in a measurable impact on beneficial uses. This latter showing must be made by demonstrating to the Department that the temperature change due to its activities will be less than or equal to 0.25°F under a conservative approach or by demonstrating the same to the EQC with appropriate modeling.

(G) Any source may petition the Department for an exception to paragraph (F) of this subsection, provided:

(i) The discharge will result in less than 1.0°F increase at the edge of the mixing zone, and subparagraph (ii) or (iii) of this paragraph applies;

(ii) The source provides the necessary scientific information to describe how the designated beneficial uses would not be adversely impacted; or

(iii) The source demonstrates that:

(I) It is implementing all reasonable management practices;

(II) Its activity will not significantly affect the beneficial uses; and

(III) The environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

(H) Any source or DMA may petition the Commission for an exception to paragraph (F) of this subsection, provided:

(i) The source or DMA provides the necessary scientific information to describe how the designated beneficial uses would not be adversely impacted; or

(ii) The source or DMA demonstrates that:

(I) It is implementing all reasonable management practices;

(II) Its activity will not significantly affect the beneficial uses; and

(III) The environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

(I) In waterbodies designated by the Department as water-quality limited for bacteria, and in accordance with priorities established by the Department, development and implementation of a bacteria management plan shall be required of those sources that the Department determines to be contributing to the problem. The Department may determine that a plan is not necessary for a

$\Delta 0.25^{\circ}\text{F} =$
 $\Delta 0.14^{\circ}\text{C}$
 \Rightarrow

OREGON ADMINISTRATIVE RULES
CHAPTER 340, DIVISION 41 - DEPARTMENT OF ENVIRONMENTAL QUALITY

dissolved oxygen shall not fall below 5.5 mg/l as a 30-day mean minimum, and shall not fall below 4.0 mg/l as an absolute minimum (Table 21);

(b) Temperature: The changes adopted by the Commission on January 11, 1996, become effective July 1, 1996. Until that time, the requirements of this rule that were in effect on January 10, 1996, apply. The method for measuring the numeric temperature criteria specified in this rule is defined in OAR 340-41-006(54):

(A) To accomplish the goals identified in OAR 340-41-120(11), unless specifically allowed under a Department-approved surface water temperature management plan as required under OAR 340-41-026(3)(a)(D), no measurable surface water temperature increase resulting from anthropogenic activities is allowed:

(i) In a basin for which salmonid fish rearing is a designated beneficial use, and in which surface water temperatures exceed 64.0°F (17.8°C);

(ii) In the Columbia River or its associated sloughs and channels from the mouth to river mile 309 when surface water temperatures exceed 68.0°F (20.0°C);

(iii) In the Willamette River or its associated sloughs and channels from the mouth to river mile 50 when surface water temperatures exceed 68.0°F (20.0°C);

(iv) In waters and periods of the year determined by the Department to support native salmonid spawning, egg incubation, and fry emergence from the egg and from the gravels in a basin which exceeds 55.0°F (12.8°C);

(v) In waters determined by the Department to support or to be necessary to maintain the viability of native Oregon bull trout, when surface water temperatures exceed 50.0°F (10.0°C);

(vi) In waters determined by the Department to be ecologically significant cold-water refugia;

(vii) In stream segments containing federally listed Threatened and Endangered species if the increase would impair the biological integrity of the Threatened and Endangered population;

(viii) In Oregon waters when the dissolved oxygen (DO) levels are within 0.5 mg/l or 10 percent saturation of the water column or intergravel DO criterion for a given stream reach or subbasin;

(ix) In natural lakes.

(B) An exceedance of the numeric criteria identified in subparagraphs (A)(i) through (v) of this subsection will not be deemed a temperature standard violation if it occurs when the air temperature during the warmest seven-day period of the year exceeds the 90th percentile of the seven-day average daily maximum air temperature calculated in a yearly series over the historic record. However, during such periods, the anthropogenic sources must still continue to comply with their surface water temperature management plans developed under OAR 340-41-026(3)(a)(D);

(C) Any source may petition the Commission for an exception to subparagraphs (A)(i) through (ix) of this subsection for discharge above the identified criteria if:

(i) The source provides the necessary scientific information to describe how the designated beneficial uses would not be adversely impacted; or

(ii) A source is implementing all reasonable management practices or measures; its activity will not significantly affect the beneficial uses; and the environmental cost of treating the parameter to the level necessary to assure full protection would outweigh the risk to the resource.

(c) Turbidity (Nephelometric Turbidity Units, NTU): No more than a ten percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized

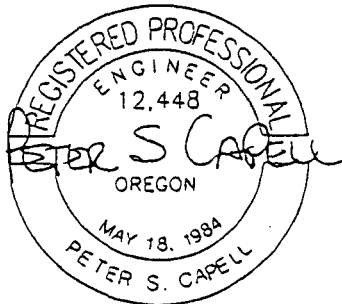
Appendix F

Extract from Design Report,
Portland Ship Repair Yard
Dry Docks Water Containment
and Treatment System

DESIGN REPORT

Portland Ship Yard Dry Docks Water Containment and Treatment System

Prepared by:



EXPIRES: 12/31/95



centurywest

ENGINEERING CORPORATION

825 N.E. Multnomah, Suite 425
Portland, Oregon 97232

DEPT OF ENVIRONMENTAL QUALITY
RECEIVED

MAY 16 1995

May 3, 1995

NORTHWEST REGION

NWMAR119187

FROM APPX C, DIFFUSER OUTFALL REPORT, OGDEN BEEMAN & ASSOC., CENTURY WEST ENGR
 Table 1. Estimated Dilution Requirements for Water Quality Compliance. CORP, SEPT 28, 1994
 PORTLAND SHIP REPAIR YARD

	COPPER (Cu)		LEAD (Pb)		ZINC (Zn)	
Effluent	< 2000 µg/L		< 2000 µg/L		< 2000 µg/L	
<u>Water Quality Criteria^{1/}</u> Chronic	12 µg/L		3.2 µg/L		110 µg/L	
Willamette River: Range of Ambient Water Quality ^{2/}	<u>HIGH</u> 8 µg/L	<u>LOW</u> 1 µg/L	<u>HIGH</u> 1 µg/L	<u>LOW</u> 0 µg/L	<u>HIGH</u> 10 µg/L	<u>LOW</u> 1 µg/L
<u>Estimated Dilution Required</u> Chronic	498	182	909	625	20	18

^{1/} Table 20. Water Quality Criteria Summary. Oregon Water Quality Standards. OAR 340-41.

^{2/} Approximate range of ambient water quality estimated from limited data obtained from DEQ and USGS files.

Appendix G

Table 20, Water Quality Criteria Summary (Applicable to All Basins)

TABLE 20

Page 3 of 5

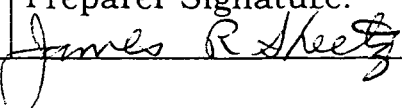
WATER QUALITY CRITERIA SUMMARY (Continued)

Compound Name (or Class)	Priority Pollutant	Carcinogen	Concentration in Micrograms Per Liter for Protection of Aquatic Life				Concentration in Units Per Liter for Protection of Human Health		
			Fresh Acute Criteria	Fresh Chronic Criteria	Marine Acute Criteria	Marine Chronic Criteria	Water and Fish Ingestion	Fish Consumption Only	Drinking Water M.C.L.
DIPHENYLHYDRAZINE 1,2	Y	N	*270.						
DI-2-ETHYLHEXYL PHTHALATE	Y	N					15.mg	50.mg	
ENDOSULFAN	Y	N	0.22	0.056	0.034	0.0087	74.ug	159.ug	
ENDRIN	Y	N	0.18	0.0023	0.037	0.0023	1.ug		0.0002mg
ETHYLBENZENE	Y	N	*32,000.		*430.		1.4mg	3.28mg	
FLUORANTHENE	Y	N	*3,980.		*40.	*16.	42.ug	54.ug	
GUTHION	N	N		0.01		0.01			
HALOETHERS	Y	N	*360.	*122.					
HALOMETHANES	Y	Y	*11,000.		*12,000.	*6,400.	0.19ug**	15.7ug**	
HEPTACHLOR	Y	Y	0.52	0.0038	0.053	0.0036	0.28ng**	0.29ng**	
HEXACHLOROETHANE	N	Y	*980.	*540.	*940.		1.9ug	8.74ug	
HEXACHLOROBENZENE	Y	N					0.72ng**	0.74ng**	
HEXACHLOROBUTADIENE	Y	Y	*90.	*9.3	*32.		0.45ug**	50.ug**	
HEXACHLOROCYCLOHEXANE (LINDANE)	Y	Y	2.0	0.08	0.16				0.004mg
HEXACHLOROCYCLOHEXANE-ALPHA	Y	Y					9.2ng**	31.ng**	
HEXACHLOROCYCLOHEXANE-BETA	Y	Y					16.3ng**	54.7ng**	
HEXACHLOROCYCLOHEXANE-GAMA	Y	Y					18.6ng**	62.5ng**	
HEXACHLOROCYCLOHEXANE-TECHNICAL	Y	Y					12.3ng**	41.4ng**	
HEXACHLOROCYCLOPENTADIENE	Y	N	*7.	*5.2	*7.		206.ug		
IRON	N	N		1,000.			0.3mg		
ISOPHORONE	Y	N	*117,000.		*12,900.		5.2mg	520.mg	
LEAD	Y	N	82.+	3.2+	140.	5.6	50.ug		0.05mg
MALATHION	N	N		0.1		0.1			
MANGANESE	N	N					50.ug	100.ug	
MERCURY	Y	N	2.4	0.012	2.1	0.025	144.ng	146.ng	0.002mg
METHOXYCHLOR	N	N		0.03		0.03	100.ug		0.1mg
MIREX	N	N		0.001		0.001			
MONOCHLOROBENZENE	Y	N					488.ug		
NAPHTHALENE	Y	N	*2,300.	*620.	*2,350.				
NICKEL	Y	N	1,400.+	160+	75	8.3	13.4ug	100.ug	
NITRATES	N	N					10.ng		10.mg
NITROBENZENE	Y	N	*27,000.		*6,680.		19.8mg		
NITROPHENOLS	Y	N	*230.	*150.	*4,850.				

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT Permit Evaluation Review Report

Oregon Department of
Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201
503-229-5263 FAX 503-229-6945



Permittee: Cascade General, Inc. 5555 N. Channel Av., Bldg. 50 Portland, OR 97217	Plant Location: Ship Repair Yard Swan Island 5555 N. Channel Avenue Portland, Oregon 97217
Sources Covered: Treated Ballast Water Treated Dry Docks Storm Water and Process Wastewater Untreated Noncontact Cooling Water from Ships in Dry Dock	Receiving Stream: Willamette River
Source Category: Minor Industrial	Proposed Action: NPDES permit modification Modification No. 1
File Information: WQ-Multnomah County File No. 70596 EPA Reference No.: OR 002294-2 Permit Modification Application No. 991547 received August 14, 1997	Source Contact: T. Alan Sprott Director of Environmental Services 503-247-1672
Preparer: James Sheetz, P.E., DEE Water Quality Section Northwest Region 503-229-5740	Date Prepared: April 14, 1998 FINAL FOR PERMIT ISSUANCE Preparer Signature: 

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- C - USGS Streamflow Data, Willamette River
- D - USGS Map, Willamette River
- E - Extract from Oregon Administrative Rules, Chapter 340, Division 41
- F - Extract from Design Report, Portland Ship Repair Yard, Dry Docks Water Containment and Treatment System
- G - Table 20, Water Quality Criteria Summary (Applicable to All Basins)

Overview of Proposed Action

The proposed action is to modify the existing NPDES permit for wastewater discharges from the Swan Island Ship Repair Yard operated by Cascade General, Inc., for the Port of Portland. (See Appendix A) The proposed modification is to add noncontact cooling water from ships in dry dock to the permitted outfalls to the Willamette River. The existing permit, issued July 16, 1996, will be modified to add the new outfalls for noncontact cooling water and other minor housekeeping changes will be made to the permit. No modifications are proposed relative to the ballast water treatment system. Several minor modifications are proposed relative to the dry docks treatment system to clarify and refine some operational conditions.

Facility Description

General

The Swan Island Ship Repair Yard (SRY) is owned by the Port of Portland and operated under contract by Cascade General, Inc. Cascade General is in the process of purchasing the SRY from the Port. Ships are serviced and repaired while tied up at berths or while in the dry docks. (See Figure 1, Dry Docks Site Plan and Figure 2, Ship Repair Yard; all figures are given in the "Figures" section of this report.) There are 13 berths and 3 dry docks. Repair activities include cleaning and painting of the ship hulls.

Ballast Water Treatment

General

The ballast water treatment facility has been in use for many years. Ballast water is pumped from the ships into a settling tank and then through an oil skimmer. Next, the wastewater is processed by heating and skimming to remove additional oil. (See Figure 3, Ballast Water Treatment System.) Finally, the wastewater goes through an American Petroleum Institute (API) separator then into holding tanks. When the tanks are full, the wastewater is sampled through sample ports on the sides of the holding tanks. If the wastewater meets the requirements of the permit, it is discharged to the Willamette River in batches; otherwise, it is discharged to the sanitary sewer. The oil recovered from the skimming and treatment processes is stored in holding tanks. Periodically, the product is tested and sold to recyclers. Emulsified oil and material from the settling tanks are taken to a sanitary landfill for disposal.

Compliance History

The compliance history of the discharges from the Ballast Water Treatment Plant was reviewed for calendar years 1992 through 1997. There was no record of any exceedences of the waste discharge limitations during this period.

The facility was briefly inspected April 28, 1994. No violations were found. There is no record in the files of complaints received by the Department regarding the ballast water treatment system.

Dry Docks Storm Water Treatment System

General

In 1996 and 1997, new facilities were installed to collect and treat contaminated storm water from the three dry docks. Prior to installation of these facilities, sand blast debris, paint chips, and other pollutants were escaped from the repair operations on the dry docks and entered the Willamette River. The new facilities, placed into full operation in 1997, allow the contaminated storm runoff from the dry docks to be pumped to a holding tank from which the wastewater is treated, then is discharged to the Willamette River near Dry Dock 4.

Process Description

The new dry dock storm water facilities collect, treat, and discharge wastewater from the three dry docks (Dry Docks 1, 3 & 4). There is no Dry Dock 2. Dry Docks 1 (See Figure 4, Dry Dock No. 1) and 3 (See Figure 5, Dry Dock No. 3) are the two smaller dry docks with approximately 4373 and 6305 m², respectively, of surface area. Dry Dock 4 is 15 938 m² (See Figures 6 and 7, Dry Dock No. 4)

Wastewater Sources

Wastewater sources from the dry docks include process wastewater, storm water, and water generated from the ships while in dry dock. Process wastewater consists of water generated from ship repair and maintenance activities, including hydroblasting, pressure washing, sandblasting, painting, and mechanical repairs. Although sandblasting only produces dry residue and airborne particles, the residue may contaminate water discharged from the ships' decks or storm water. Storm water on the dry docks can become contaminated with residues from the repair activities and thereby requires treatment. Non-maintenance and repair wastewater generated from the ship activities on the dry docks include noncontact cooling water, bilge pumping, and domestic wastes. These waste sources are not a part of the dry dock wastewater system. Only process wastewater and storm water generated from the dry docks are included in the dry docks wastewater system, which is described below.

Process wastewater is estimated to generate a peak daily flow of 378.5 m³/day. This estimate was derived by analyzing various scenarios of dry dock operation and ship maintenance activities. The representative scenario is based on 113.6 m³/day from 16 hours of pressure washing on Dry Dock 1 or 3 and 265 m³/day from 16 hours of hydroblasting on Dry Dock 4.

The estimate for contaminated storm water to be treated was derived based on an analysis of various scenarios involving operation of the dry docks, ship

repair activities, and storm return frequencies. The fundamental assumptions included in this analysis were:

1. Clean storm water will be allowed to discharge directly to the Willamette River without passing through the treatment system.
2. The design storm is a 10-year, 24-hour storm (8.38 cm per day). Operational procedures will be established to minimize the discharge of contaminants during storm events.
3. Ship maintenance and repair operations will cease during storms exceeding the design storm and will not contribute additional sources of contaminants. Contaminants on the dry docks will be cleaned up.
4. A "first flush" will occur for storms approaching or exceeding the design storm that will carry most of the contaminants to the treatment system. Storm water will contain progressively lower concentrations of contaminants. Moreover, Best Management Practices (BMPs) will be implemented to maintain the lowest practicable accumulations of contaminants on the dry docks at all times.
5. The expected frequency of overflow to the river due to the combined effect of ship repair on multiple dry docks and a major storm event causing overflow is approximately once per year.

Treatment System

The dry docks storm water treatment system was designed to include the following:

1. A sheet drainage collection system is provided for each dry dock. This system conveys storm water and process water to a pumping station and treatment facility. There will be no separation of the storm water from the decks of the dry docks.
2. A 378.5 m³ storage-equalization tank and a 378.5 m³/day conventional treatment facility were constructed. The first 378.5 m³ received daily is treated at the treatment facility. The second 378.5 m³ received is stored and treated the next day.
3. Storm water in excess of the treatment-storage capacity will be discharged directly to the Willamette River depending on the occurrence of various activities and events.
4. A conventional treatment system consisting of the following unit processes: grit removal, clarification, rapid mixing, flocculation, clarification, and filtration was provided.
5. River water is pumped into the treatment plant effluent outfall line to provide supplemental dilution to meet water quality standards within the existing mixing zone.
6. The Ship Repair Yard Environmental Best Management Practices will minimize the generation of wastes during repair activities and the volume and contaminant concentration of wastes flowing to the river.

Compliance History

The compliance history of the dry docks storm water treatment system was reviewed. The dry docks treatment system encountered difficulties achieving the design flowrate capacity of 378.5 m³/d. This was attributed to blinding of the diatomaceous earth (DE) filters that were included with the original installation. These filters were later replaced with sand filters, which provided a greater flowrate. The quality of the effluent during the period of operational startup was satisfactory, and effluent limitations were not exceeded.

There was one incident of noncompliance related to the dry docks, but the incident was not about the capacity or quality of the effluent from the dry docks treatment system. This event occurred on April 18, 1997, and April 21, 1997. An inspection by a hazardous waste inspector of DEQ cited also water quality violations involving a discharge from a hose from cleaning of a chain locker. A civil penalty was assessed for this violation. The inspector also identified violations of the NPDES permit related to Best Management Practices. A Notice of Permit Violation (NPV) was issued and the company provided a satisfactory response and developed improved Best Management Practices. Further details on this matter are available upon request.

Noncontact Cooling Water

General

The dry docks storm water treatment system described above was not designed and constructed to handle noncontact cooling water from ships on the dry docks. Some ships, especially cruise ships, need to maintain refrigeration, air conditioning, and heat exchangers in operation while the ship is undergoing repairs on the dry dock. This noncontact cooling water is water that has been pumped from the river, circulated within a closed cooling system, and then discharged back to the river.

Coast Guard regulations allow ships both under power and at berth to discharge noncontact cooling water directly to surface water. However, while the ship is on dry dock, the existing NPDES permit applies and does not allow the cooling water to be discharged back to the river. The existing storm water treatment facility does not have either capacity or treatment processes for handling the noncontact cooling water.

This modification will allow the noncontact cooling water to be discharged back to the river through openings, called sally ports, in the sides of the dry docks. The effects and controls related to the discharge of noncontact cooling water are described below. The application for a permit modification to allow the direct discharge of noncontact cooling water is given in Appendix B.

Wastewater Characteristics

Quantity

The flowrate of noncontact cooling water from a typical ship requiring discharge of noncontact cooling water is expected to be less than 210 L/s (0.210 m³/s), as described by Cascade General in Appendix B.

Quality

The typical quality of the noncontact cooling water is also given in Appendix B. The principal constituent of concern is temperature, however this analysis will also evaluate lead (Pb) to determine whether metals are also of concern.

Temperature

The variation of effluent temperature with flowrate is expected to be as follows:

Effluent Flowrate	Effluent Temperature
0-126 L/s	35° C
126-189 L/s	30° C
> 189 L/s	25° C

Lead (Pb)

The concentration of lead in the noncontact cooling water for the samples taken on June 4, 1997, was 0.035 mg/L. Only one data point was provided by Cascade General.

Effluent Limitations

The analysis below is to develop effluent limitations for noncontact cooling water based on the characteristics and quantity described above. First, the effluent limitations for temperature will be developed, then the analysis will evaluate metals as represented by lead.

Temperature

The effluent temperature for noncontact cooling water from ships in dry dock is expected to be less than 35° C. The analysis that follows is to show that there will be no measurable increase in river temperature at the edge of the mixing zone under the expected discharge conditions.

Mixing Zone Size

In this instance, the mixing zone size is established based on Best Professional Judgment (BPJ). The mixing zone is defined as an area of the width of the dry dock plus 10 m on either side by the length of the dry dock plus 10 m on the water end. This comprises a mixing zone of a band 10 m wide around the dry dock. The analysis that follows is based only on the worst case condition, which is Dry Dock 4, the largest dry dock.

Dilution Factor

The river flow used to develop the dilution flow is the 7Q10, which is the historical low flow with a 10 percent recurrence interval (10 year frequency) with a period of 7 consecutive days. The 7Q10 data were obtained from the US Geological Survey, Open File Report 93-63, "Statistical Summaries of Streamflow Data in Oregon; Volume 2—Annual Low and High Flow, and Instantaneous Peak Flow," pg. 286, for the Willamette River Basin, 14211720, Willamette River at Portland, Oregon (Morrison Bridge, RM 12.8). (See Appendix C) The 7Q10 flow reported by USGS is 167.4 m³/s.

Since no mixing zone analysis was available, dilution flow was assumed to be the same proportion of the 7Q10 flow that the width of Dry Dock 4 bears to the width of the Willamette River at that location. The width of the river is approximately 600 m near Dry Dock 4. (See Appendix D) The width of Dry Dock 4 is 58.5 m. The total width of the mixing zone is the width of Dry Dock 4 plus 10 m on each side, or a total of 78.5 m. The proportion of the mixing zone width to the width of the river is 78.5 m/600 m = 0.13 = 13%. The dilution flow used for this analysis is the 7Q10 flow x 0.13 = 167.4 m³/s x 0.13 = 21.8 m³/s.

The dilution factor, S, is then estimated as the allocated dilution flow in the river of 21.8 m³/s divided by the maximum expected discharge flowrate of 0.210 m³/s:

$$S = \frac{21.8 \frac{m^3}{s}}{0.210 \frac{m^3}{s}} = 104$$

The dilution factor estimate was also calculated using a different approach for comparison. The other approach was based on the time to exchange one volume of the mixing zone using a low velocity for the river. This approach resulted in an estimated dilution factor of 112. Therefore, the previous estimate of 104 will be used for the dilution factor, S.

Following the methodology described above, the effluent flowrate (Q_e), effluent temperature (T_e), and dilution factor (S) for the key effluent discharge conditions are:

Effluent Flowrate Q _e	Effluent Temperature T _e	Dilution Factor S
126 L/s	35° C	173
189 L/s	30° C	115
210 L/s	25° C	104

Effluent Temperature Limit

Water quality standards for the Willamette River for temperature indicate that, when the river temperature is 20.0° C or more, a new or expanding source must demonstrate that it will not cause a measurable increase in temperature

at the edge of the mixing zone. The standards define measurable as a difference of more than 0.14° C. (See Appendix E)

The increase in temperature was calculated as follows:

$$Q_m T_m = Q_s S T_s + Q_e T_e$$

$$T_m = \frac{Q_s S T_s + Q_e T_e}{Q_m}$$

where:

Q_m = mixed total flow of stream and effluent

T_m = temperature of mix of stream and effluent

Q_e = flow of effluent

S = dilution factor

T_s = temperature of stream before mixing with effluent (20° C critical point for standard)

T_e = temperature of effluent

For 25° C effluent:

$$T_m = \frac{(0.210 \frac{m^3}{s}) (104) (20^\circ C) + (0.210 \frac{m^3}{s}) (25^\circ C)}{22.01 \frac{m^3}{s}} = 20.084^\circ C$$

$$\triangleright T = 20.084 - 20.0 = 0.084 < 0.14^\circ C \text{ OK}$$

For 30° C effluent:

$$T_m = \frac{(0.189 \frac{m^3}{s}) (115) (20^\circ C) + (0.189 \frac{m^3}{s}) (30^\circ C)}{21.989 \frac{m^3}{s}} = 20.027^\circ C$$

$$\triangleright T = 20.027 - 20.0 = 0.027 < 0.14^\circ C \text{ OK}$$

For 35° C effluent:

$$T_m = \frac{(0.126 \frac{m^3}{s}) (173) (20^\circ C) + (0.126 \frac{m^3}{s}) (35^\circ C)}{21.926 \frac{m^3}{s}} = 20.084^\circ C$$

$$\triangleright T = 20.084 - 20.0 = 0.084 < 0.14^\circ C \text{ OK}$$

It is concluded that an effluent temperature of 35° C or less will not cause a measurable increase in river temperature at the edge of the mixing zone at a river temperature of 20° C for the effluent flowrates given.

Reasonable Potential Analysis for Metals

Metals can be toxic to aquatic life; instream standards have been developed that are applicable to all waterbodies. The one sample collected by Cascade General from the noncontact cooling water discharged by the Independence on June 4, 1997, showed 0.035 mg/L for lead (Pb). (See Appendix B) Lead will be used as the indicator metal for the following reasonable potential analysis.

The ambient Pb concentration in the Willamette River near the shipyard was taken from: "Design Report, Portland Ship Yard, Dry Docks Water Containment and Treatment System," Peter S. Capell, PE, Century West Engineering Corporation, May 3, 1995. (See Appendix F) In this design report, modeling was performed to establish effluent limits for the dry docks storm water treatment system being designed. In this modeling work, the ambient water quality for the Willamette River for lead was determined to be 1 µg/L. This value will be used for this reasonable potential analysis for noncontact cooling water.

As noted previously, the 7Q10 of the Willamette River was determined to be 167.4 m³/s. The allocation to the mixing zone for noncontact cooling water was determined to be 13 percent of the total river flow 7Q10, or 21.8 m³/s. Also from the same source (USGS), the 1Q10 total river flow is 139 m³/s and the allocation to the mixing zone is 13 percent of 139 m³/s, or 18 m³/s. The allocation to the zone of initial dilution (ZID) is 10 percent of the 1Q10, or 1.8 m³/s.

A reasonable potential analysis normally requires several data points for the concentration of the particular pollutant discharged in order to determine the statistical variability of the parameter. With only one data point it is not possible to calculate a variability factor. However, using Best Professional Judgment (BPJ), it is anticipated that the metals leached from the noncontact cooling water systems of various ships will not be highly variable. A variability factor of 1.7 is assumed, and the one data point of 35 µg/L is multiplied by 1.7 to give 59.5 µg/L as the maximum concentration of lead that might be expected from noncontact cooling water from ships.

Using the complete mix formula, the reasonable potential calculations for fresh water chronic instream standards of 3.2 µg/L from Table 20 are given below. (See Appendix G)

$$Q_m C_m = C_{em} Q_e + C_s Q_s$$
$$C_m = \frac{C_{em} Q_e + C_s Q_s}{Q_{em} + Q_s}$$

where:

Q_m = mixed total flow of stream (7Q10 allocated to mixing zone) and effluent ($0.21 + 21.8 = 22.01 \text{ m}^3/\text{s}$)

Q_s = flow of stream allocated to mixing zone ($21.8 \text{ m}^3/\text{s}$)

C_m = concentration of mix of stream and effluent

Q_e = flow of effluent ($0.21 \text{ m}^3/\text{s}$)

C_s = ambient concentration of lead in the stream before mixing with effluent ($1 \text{ } \mu\text{g}/\text{L}$)

C_{em} = maximum concentration of lead in effluent ($59.5 \text{ } \mu\text{g}/\text{L}$)

The concentration of lead at the edge of the mixing zone is then:

$$C_m = \frac{(59.5 \frac{\text{ug}}{\text{L}})(0.21 \frac{\text{m}^3}{\text{s}}) + (1.0 \frac{\text{ug}}{\text{L}})(21.8 \frac{\text{m}^3}{\text{s}})}{22.01 \frac{\text{m}^3}{\text{s}}} = 1.55 \frac{\text{ug}}{\text{L}} < 3.2 \frac{\text{ug}}{\text{L}} \text{ Chronic OK}$$

The instream concentration of lead at the edge of the mixing zone is calculated to be less than the instream chronic standard for lead.

For the fresh water acute standard of $82 \text{ } \mu\text{g}/\text{L}$:

Q_m = mixed total flow of stream (1Q10 allocated to mixing zone) and effluent ($0.21 + 1.8 = 2.01 \text{ m}^3/\text{s}$)

Q_s = flow of stream allocated to ZID ($1.8 \text{ m}^3/\text{s}$)

C_m = concentration of mix of stream and effluent

Q_e = flow of effluent ($0.21 \text{ m}^3/\text{s}$)

C_s = ambient concentration lead in stream before mixing with effluent ($1 \text{ } \mu\text{g}/\text{L}$)

C_{em} = maximum concentration of lead in effluent ($59.5 \text{ } \mu\text{g}/\text{L}$)

The concentration of lead at the edge of the ZID is then:

$$C_m = \frac{(59.5 \frac{\text{ug}}{\text{L}})(0.21 \frac{\text{m}^3}{\text{s}}) + (1.0 \frac{\text{ug}}{\text{L}})(1.8 \frac{\text{m}^3}{\text{s}})}{2.01 \frac{\text{m}^3}{\text{s}}} = 7.1 \frac{\text{ug}}{\text{L}} < 82 \frac{\text{ug}}{\text{L}} \text{ Acute OK}$$

The instream concentration of lead at the edge of the ZID is calculated to be less than the instream acute standard for lead.

Based on the above calculations, it is concluded that there is no reasonable potential for the acute or chronic instream standards for lead to be exceeded at the edge of the ZID or the edge of the mixing zone. Thus, no effluent limits will be set for metals for the discharge of noncontact cooling water covered by this modification.

Description of Permit Conditions

The proposed changes to the permit for this Modification No. 1 are described below. The modified permit is given in its entirety. Only the changes to the permit resulting from this Modification No. 1 are described.

Front Page

The front page was changed to add Cascade General, Inc., as the permittee. (The existing permit was transferred to Cascade General September 2, 1996.) Also, the new outfalls (003 through 008) for noncontact cooling water were added, as follows:

<u>Cascade General, Inc.</u>	<u>Type of Waste</u>	<u>Outfall No.</u>	<u>Outfall Location</u>
Ship Repair Yard	Treated Ballast Water	001	
Bldg. 50	Treated Dry Docks Storm Water	002	R.M. 6.5
5555 N. Channel	and Process Wastewater		R.M. 6.5
Avenue	Untreated Noncontact Cooling		
Portland, OR 97217	Water from Ships in Dry Dock 4		
	South Side	003	R.M. 6.5
	North Side	004	R.M. 6.5
	Untreated Noncontact Cooling		
	Water from Ships in Dry Dock 3		
	South Side	005	R.M. 6.5
	North Side	006	R.M. 6.5
	Untreated Noncontact Cooling		
	Water from Ships in Dry Dock 1		
	South Side	007	R.M. 6.5
	North Side	008	R.M. 6.5

The following changes were made to indicate that the permit is issued in its entirety as Modification No. 1:

Issued in response to Renewal Application No. 995559 received December 28, 1993, and request for modification received August 14, 1997, Application No. 991547. This modification replaces in its entirety the previous permit issued July 16, 1996.

Schedule A—Waste Discharge Limitations

Condition 3, Outfalls 003 - 008, Effluent Limitations

Schedule A limitations for the discharge of noncontact cooling water were added as follows:

- Outfalls 003, 004, 005, 006, 007, and 008 [Untreated Noncontact Cooling Water from Ships in Dry Dock 4 (Outfalls 003 and 004); Untreated Noncontact Cooling Water from Ships in Dry Dock 3 (Outfalls 005 and 006); Untreated Noncontact Cooling Water from Ships in Dry Dock 1 (Outfalls 007 and 008):

Parameter	Limitations	
	Flowrate	Daily Maximum
Temperature, °C	0-126 L/s	35° C
Temperature, °C	126-189 L/s	30° C
Temperature, °C	>189 L/s	25° C

Condition 5, Mixing Zones

This condition was changed to add a defined mixing zone for the noncontact cooling water outfalls, as follows:

5. *Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted that will violate Water Quality Standards as adopted in OAR 340-41-445 except in the following defined mixing zone:*

For Outfalls 001 and 002: The allowable mixing zone shall not exceed that portion of the Willamette River within a radius of 30 m from the points of discharge.

For Outfalls 003, 004, 005, 006, 007, and 008: The allowable mixing zone shall not exceed that portion of the Willamette River within 10 m in any direction from the exterior wall of Dry Dock 4, Dry Dock 3, or Dry Dock 1.

Condition 6, Compliance Determination Locations

Condition 6 was modified to add compliance determination locations for the noncontact cooling water outfalls, 003 through 008, conditions 6 C through 6 H.

- C. Outfall 003: This outfall is defined as the discharge from the south sally ports of Dry Dock 4. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the south sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
- D. Outfall 004: This outfall is defined as the discharge from the north sally ports of Dry Dock 4. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the north sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
- E. Outfall 005: This outfall is defined as the discharge from the south sally ports of Dry Dock 3. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the south sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
- F. Outfall 006: This outfall is defined as the discharge from the north sally ports of Dry Dock 3. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the north sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.

- G. Outfall 007: This outfall is defined as the discharge from the south sally ports of Dry Dock 1. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the south sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.
- H. Outfall 008: This outfall is defined as the discharge from the north sally ports of Dry Dock 1. Sampling must be conducted and compliance with effluent limitations will be determined at the point that the noncontact cooling water is discharged from the north sally ports. Compliance with water quality standards shall be achieved at the edge of the mixing zone.

Condition 7, Discharge in Excess of Capacity

Condition 7 was modified to reflect recent changes made in the dry docks storage and treatment system, as described below.

The current flowrate capacity of the treatment system is 272.6 m³/d, which is 72 percent of the original design capacity. This reduced flowrate capacity has been more than offset by an increase in storage capacity. The storage capacity was increased from the original 378.5 m³ to a total of 3408 m³ by converting one of the 3030 m³ ballast water treatment plant storage tanks to use for the dry docks treatment system. The total storage capacity for the dry docks treatment system is now 12.5 days of the treatment capacity whereas it was 1 day for the original design. For one day, the system can now handle 3680 m³ (3408 m³ storage plus one day's processing of 272 m³) whereas with the original design only 757 m³ could be handled. This is a 486 percent increase and allows the dry dock treatment system to handle much larger storms and probably will avoid any discharge of untreated contaminated water from the dry docks.

7. *Contaminated storm water and process wastewater generated on the dry docks at a rate that exceeds the total storage capacity of 3400 m³ and the treatment flowrate of 272 m³/d may be discharged directly to the Willamette River without treatment, providing the applicable BMPs for the dry docks are in effect at the time. Non-process segregated water generated on the dry docks at a rate that, when combined with contaminated storm water and process wastewater, would exceed the individual capacities of conveyance systems on the dry docks, may be discharged directly to the Willamette River without treatment, only to the extent necessary to avoid an upset and discharge of contaminated water.*

Condition 10, Concurrent Discharges

Condition 10 was added to prohibit concurrent discharges from the dry docks treatment system and the ballast water treatment system. The original analysis of the dry docks treatment system was based on discharge from the dry docks treatment system occurring at different times than discharge from the ballast water treatment system. Both facilities use the same outfall and mixing zone and the analysis assumed that concurrent discharges would not occur. The new Condition 10 is as follows:

10. *The ballast water system shall not discharge at the same time that the dry docks storm water treatment system is discharging.*

Schedule B—Monitoring Requirements

Condition 3, Noncontact Cooling Water Monitoring

Condition 3 was added to provide effluent limits for temperature from the noncontact cooling water outfalls, as described previously and as given below.

3. Outfalls 003, 004, 005, 006, 007, and 008 [Untreated Noncontact Cooling Water from Ships in Dry Dock 4 (Outfalls 003 and 004); Untreated Noncontact Cooling Water from Ships in Dry Dock 3 (Outfalls 005 and 006); Untreated Noncontact Cooling Water from Ships in Dry Dock 1 (Outfalls 007 and 008):

Item or Parameter	Minimum Frequency	Type of Sample
Temperature, °C	Daily from each outfall in use	Grab
Flowrate, L/s	Daily from intake water meter for each outfall in use	Grab

Schedule C—Compliance Conditions and Schedules

Schedule C was deleted because all of the compliance conditions have been fulfilled.

Public Comments

No comments were received during the public comment period of March 12, 1998 to April 12, 1998.

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT
Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon
Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

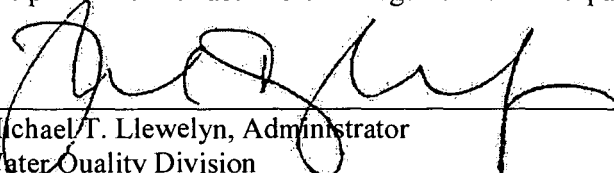
Issued 10/4/02 GEN12Z MULTNOMAH/NWR
File No. 70596 ORR20-0258

Vigor Industrial LLC
5555 N Channel Ave.
Portland, OR 97217
Site: Vigor Industrial

SOURCES COVERED BY THIS PERMIT

Facilities identified in 40 Code of Federal Regulation (CFR) §122.26(b)(14)(i - ix, xi) with storm water discharges. See *Table 1: Sources Covered* on p. 2 for more information on the CFR regulated industries covered by this permit. Facilities may qualify for a conditional exclusion from the requirement to obtain coverage under a permit if there is no exposure of industrial activities and materials to storm water pursuant to 40 CFR §122.26(g); see *Permit Coverage and Exclusion from Coverage* on p. 3 for more information.

Construction activities, asphalt mix batch plants, concrete batch plants and Standard Industrial Classification code 14, *Mining and Quarrying of Nonmetallic Minerals, Except Fuels*, are excluded from this permit. These activities are regulated under separate permits.


Michael T. Llewelyn, Administrator
Water Quality Division

Issued: July 26, 2002
Effective: August 9, 2002

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate storm water treatment and/or control facilities, and to discharge storm water to public waters in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	Page
Permit Coverage and Exclusion From Coverage	3
Schedule A - Storm Water Pollution Control Plan, Additional Requirements, Limitations, and Benchmarks	5
Schedule B - Monitoring and Reporting Requirements	10
Schedule C - Compliance Conditions and Schedules	12
Schedule D - Special Conditions	13
Schedule F - General Conditions	14

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharges to an underground injection control system.

TABLE 1: SOURCES COVERED

<p>Facilities with the following primary Standard Industrial Classification codes:</p> <ul style="list-style-type: none"> 10 Metal Mining 12 Coal Mining 13 Oil and Gas Extraction 20 Food and Kindred Products 21 Tobacco Products 22 Textile Mill Products 23 Apparel and Other Finished Products Made From Fabrics and Similar Material 24 Lumber and Wood Products, Except Furniture (excluding 2491 Wood Preserving and 2411 Logging) 25 Furniture and Fixtures 27 Printing, Publishing and Allied Industries 28 Chemicals and Allied Products (excluding 2874 Phosphate Fertilizer Manufacturing) 29 Petroleum Refining and Related Industries 30 Rubber and Miscellaneous Plastics Products 31 Leather and Leather Products 32 Stone, Clay, Glass, and Concrete Products 33 Primary Metal Industries 34 Fabricated Metal Products, Except Machinery and Transportation Equipment 35 Industrial and Commercial Machinery and Computer Equipment 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 Transportation Equipment 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks 39 Miscellaneous Manufacturing Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage 5015 Motor Vehicle Parts, Used 5093 Scrap and Waste Materials
<p>Facilities with the following primary Standard Industrial Classification codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations:</p> <ul style="list-style-type: none"> 41 Local and Suburban Transit and Interurban Highway Passenger Transportation 42 Motor Freight Transportation and Warehousing (excluding 4221 Farm Product Warehousing and Storage, 4222 Refrigerated Warehousing and Storage, and 4225 General Warehousing and Storage) 43 United States Postal Service 44 Water Transportation 45 Transportation by Air 5171 Petroleum Bulk Stations and Terminals
<p>Steam Electric Power Generation including coal handling sites</p>
<p>Landfills, land application sites and open dumps [excluding landfills regulated by 40 CFR §445 that discharge "contaminated storm water" (as defined by 40 CFR §445.2) to waters of the U.S.]</p>
<p>Hazardous Waste Treatment, Storage and Disposal Facilities [excluding hazardous waste landfills regulated by 40 CFR §445 that discharge "contaminated storm water" (as defined by 40 CFR §445.2) to waters of the U.S.]</p>
<p>Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR §403.</p>

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE

1. Application for General Permit Coverage

a) *New facilities and existing facilities obtaining coverage for the first time*

Owners or operators of sources covered by this permit must:

- i) Submit a complete copy of the Department-approved application form to the Department requesting coverage under this permit at least 180 days prior to the planned activity that will result in the discharge to waters of the state, unless otherwise approved by the Department.
- ii) Provide payment of all fees applicable to this permit prior to obtaining coverage.

b) *Renewal of permit coverage for existing permittees*

Owners or operators of sources covered by this permit must:

- i) Submit a complete copy of the Department approved application form 180 days prior to permit expiration, unless otherwise approved in writing by the Department.
- ii) Provide payment of all applicable fees for permit renewal.
- iii) The existing permit will continue to be in effect through administrative extension after the permit expiration date if a complete renewal application is submitted.

c) *Notification that permit coverage has been obtained*

- i) The Department will notify the applicant by mail that they have received coverage and is authorized to operate under the conditions of this permit.
- ii) If the applicant's operation cannot be approved for coverage under this permit, the applicant may apply for an individual permit.

2. "No Exposure" Conditional Exclusion from Permit Coverage

Application for permit coverage is not required to obtain the "No Exposure" conditional exclusion described below.

a) To qualify for this exclusion, the owner or operator must:

- i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff.
- ii) Complete and sign a certification, on a form approved by the Department, that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in 40 CFR §122.26(g)(2).
- iii) Submit the signed certification to the Department once every five years.
- iv) Allow the Department to inspect the facility to determine compliance with the "no exposure" conditions, and allow the Department to make any "no exposure" inspection reports available to the public upon request.
- v) For facilities that discharge through a municipal separate storm sewer system (MS4), upon request, submit a copy of the "no exposure" certification to the MS4 operator (i.e., local municipality), as well as allow inspection and public reporting by the MS4 operator.
- vi) Use the Environmental Protection Agency (EPA) *Guidance Manual for Conditional Exclusion from Storm Water Permitting Based on "No Exposure" of Industrial Activities to Storm Water* (EPA 833-B-00-001, June 2000) to determine "no exposure."

b) Limitations for obtaining and/or maintaining the exclusion:

- i) This exclusion is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be "no exposure" discharges, individual permit requirements should be adjusted accordingly.

be monitored (as allowed in Schedule B.1.c), a description supporting this approach must also be included.

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- b) **Site Controls** The permittee must maintain existing controls and/or develop new controls appropriate for the site. The purpose of these controls is to eliminate or minimize the exposure of pollutants to storm water. In developing a control strategy, the SWPCP must have the following minimum components. A description of each component must be included in the SWPCP.
- i) *Storm Water Best Management Practices* If technically and economically feasible, the following best management practices must be employed at the site. A schedule for implementation of these practices must be included in the SWPCP if the practice has not already been accomplished. This schedule must be consistent with the requirements for developing and implementing the SWPCP in Schedule C of the permit.
- (1) Containment - All hazardous substances (see Schedule D.3, Definitions) must be stored within berms or other secondary containment devices to prevent leaks and spills from contaminating storm water. If the use of berms or secondary containment devices is not possible, then hazardous substances must be stored in areas that do not drain to the storm sewer system.
 - (2) Oil and Grease - Oil/Water separators, booms, skimmers or other methods must be employed to eliminate or minimize oil and grease contamination of storm water discharges.
 - (3) Waste Chemicals and Material Disposal - Wastes must be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to storm water. All waste contained in bins or dumpsters where there is a potential for drainage of storm water through the waste must be covered to prevent exposure of storm water to these pollutants. Acceptable covers include, but are not limited to, storage of bins or dumpsters under roofed areas and use of lids or temporary covers such as tarps.
 - (4) Erosion and Sediment Control - Erosion control methods such as vegetating exposed areas, graveling or paving must be employed to minimize erosion of soil at the site. Sediment control methods such as detention facilities, sediment control fences, vegetated filter strips, bioswales, or grassy swales must be employed to minimize sediment loads in storm water discharges. For activities that involve land disturbance, the permittee must contact the local municipality to determine if there are other applicable requirements.
 - (5) Debris Control - Screens, booms, settling ponds, or other methods must be employed to eliminate or minimize debris in storm water discharges.
 - (6) Storm Water Diversion - Storm water must be diverted away from fueling, manufacturing, treatment, storage, and disposal areas to prevent exposure of uncontaminated storm water to potential pollutants.
 - (7) Covering Activities - Fueling, manufacturing, treatment, storage, and disposal areas must be covered to prevent exposure of storm water to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings and temporary covers such as tarps.
 - (8) Housekeeping - Areas that may contribute pollutants to storm water must be kept clean. Sweeping, prompt clean up of spills and leaks, and proper maintenance of vehicles must be employed to eliminate or minimize exposure of storm water to pollutants.

- ii) *Spill Prevention and Response Procedures* Methods to prevent spills along with clean-up and notification procedures must be included in the SWPCP. These methods and procedures must be made available to appropriate personnel. The required clean up material must be on-site or readily available. Spills prevention plans required by other regulations may be substituted for this provision providing that storm water management concerns are adequately addressed.
- iii) *Preventative Maintenance* A preventative maintenance program must be implemented to ensure the effective operation of all storm water best management practices. At a minimum the program must include:
 - (1) Monthly inspections of areas where potential spills of significant materials or industrial activities could impact storm water runoff.
 - (2) Monthly inspections of storm water control measures, structures, catch basins, and treatment facilities.
 - (3) Cleaning, maintenance and/or repair of all materials handling and storage areas and all storm water control measures, structures, catch basins, and treatment facilities as needed upon discovery. Cleaning, maintenance, and repair of such systems must be performed in such a manner as to prevent the discharge of pollution.
- iv) *Employee Education* An employee orientation and education program must be developed and maintained to inform personnel of the components and goals of the SWPCP. The program must also address spill response procedures and the necessity of good housekeeping practices. A schedule for employee education must be included in the SWPCP. The Department recommends this education and training occur at the time of an employee's hire and annually thereafter.
- c) **Record Keeping and Internal Reporting Procedures** The following information must be recorded and maintained at the facility and provided to the Department and other government agencies upon request. This information does not need to be submitted as part of the SWPCP.
 - i) Inspection, maintenance, repair and education activities as required by the SWPCP.
 - ii) Spills or leaks of significant materials that impacted or had the potential to impact storm water or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

ADDITIONAL REQUIREMENTS

- 3. **Oregon Administrative Rule 340-041-0026(3)(a)(D), Surface Water Temperature Management Plan** Individual storm water discharges are not expected to cause a measurable increase in stream temperature because the storm water discharges mainly occur at a time of year when ambient stream and runoff temperatures are relatively low. Compliance with this permit meets the requirement of OAR 340-041-0026(3)(a)(D) to develop and implement a surface water temperature management plan. If permitted storm water discharges in a particular basin are assigned waste load allocations under a Total Maximum Daily Load for temperature, then permittees in this basin will be required to implement additional management practices to reduce the temperature of the discharges. These practices include, but are not limited to, increased vegetation to provide for shading, underground conveyance systems or detention vaults, and filter treatment systems to reduce detention times.
- 4. **Storm Water Only** This permit only regulates the discharge of storm water. It does not authorize the discharge or on-site disposal of process wastewater, wash water, boiler blowdown, cooling

water, air conditioning condensate, deicing residues, or any other non-storm discharges associated with the facility. The Department recommends that piping and drainage systems for floor drains and other process wastewater discharge points be separated from the storm drainage system to prevent inadvertent discharge of pollutants to waters of the state.

Any other wastewater discharge or disposal must be permitted in a separate permit. A separate Department permit may not be required if the wastewater is reused or recycled without discharge or disposal, or discharged to the sanitary sewer with approval from the local sanitary authority.

5. **Water Quality Limited Streams** - If Total Maximum Daily Loads are established and the discharge from a permitted source is assigned a waste load allocation, application for an individual or different general permit or other appropriate tools may be required to address the allocation.
6. **Water Quality Standards** The ultimate goal for permittees is to comply with water quality standards in OAR 340-041. In instances where a storm water discharge adversely impacts water quality, the Department may require the facility to implement additional management practices, apply for an individual permit, or take other appropriate action.

CODE OF FEDERAL REGULATION STORM WATER DISCHARGE LIMITATIONS

7. The permittee with the following activities must be in compliance with the applicable limitations at the time of permit assignment:

CFR Industry		Parameter	Limitation	
Category	Subcategory			
Cement manufacturing (40 CFR §411)	Materials storage piles runoff	pH	6.0 - 9.0 SU	
		Total Suspended Solids (TSS)	50 mg/l	
Steam powered electric power generating (40 CFR §423)	Coal pile runoff	TSS	50 mg/l, Daily Maximum	
Paving and roofing materials (tars and asphalt) (40 CFR §443)	Runoff from manufacturing of asphalt paving or roofing emulsion	Oil & Grease	20 mg/l, Daily Maximum	15 mg/l, 30 Day Average
		pH	6.0 - 9.0 SU	

STORM WATER DISCHARGE BENCHMARKS

8. **Benchmarks** Benchmarks are guideline concentrations not limitations. They are designed to assist the permittee in determining if the implementation of their SWPCP is reducing pollutant concentrations to below levels of concern. For facilities that are subject to federal limitations, benchmarks apply to only those pollutants that are not limited by the federal regulations. The following benchmarks apply to each point source discharge of storm water associated with industrial activity:

Parameter	Benchmark
Total Copper	0.1 mg/l
Total Lead	0.4 mg/l
Total Zinc	0.6 mg/l
pH	5.5 – 9.0 SU
Total Suspended Solids	130 mg/l
Total Oil & Grease	10 mg/l
E. coli**	406 counts/100 ml
Floating Solids (associated with industrial activities)	No Visible Discharge
Oil & Grease Sheen	No Visible Sheen

** The benchmark for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

9. **Review of SWPCP** If benchmarks are not achieved, the permittee must investigate the source of the elevated pollutant levels and review and, if necessary, revise the SWPCP within 60 days of receiving sampling results. The purpose of this review is to determine if the SWPCP is being followed and to identify any additional technically and economically feasible site controls that need to be implemented to further improve the quality of storm water discharges. These site controls include best management practices, spill prevention and response procedures, preventative maintenance, and employee education procedures as described in Schedule A.2.b.
- a) **SWPCP Revision** Any newly identified site controls must be implemented in a timely manner and incorporated into the SWPCP as an update. A new SWPCP is not required. If no additional site controls are identified, the permittee must state as such in an update to the SWPCP.
- b) **SWPCP Revision Submittal** Results of this review must be submitted to the Department in accordance with Schedule B.3 and made available upon request to government agencies responsible for storm water management in the permittee's area.
- c) **Background or Natural Conditions** If the permittee demonstrates that background or natural conditions not associated with industrial activities at the site cause an exceedance of a benchmark, then no further modifications to the SWPCP are required for that parameter. Upon successful demonstration of natural or background conditions through monitoring of the same storm event used to evaluate benchmarks the permittee would be eligible for the monitoring reduction as outlined in Schedule B.2.

**SCHEDULE B
MONITORING AND REPORTING REQUIREMENTS**

1. Minimum Monitoring Requirements

- a) All permittees must monitor storm water associated with industrial activity for the following:

GRAB SAMPLES OF STORM WATER	
Parameter*	Frequency
Total Copper	Twice per Year
Total Lead	Twice per Year
Total Zinc	Twice per Year
pH	Twice per Year
Total Suspended Solids	Twice per Year
Total Oil & Grease	Twice per Year
E. coli**	Twice per Year

* Parameters should be analyzed on samples collected from the same storm event.

** The monitoring for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

VISUAL MONITORING OF STORM WATER	
Parameter	Frequency
Floating Solids (associated with industrial activities)	Once a Month (when discharging)
Oil & Grease Sheen	Once a Month (when discharging)

- b) **Grab Samples** Grab samples that are representative of the discharge must be taken at least 60 days apart. It is preferred, but not required, that one sample be collected in the fall and one in the spring. Compositing of samples from different drainage areas is not allowed.
- c) **Multiple Point Source Discharges** The permittee may reduce the number of storm water monitoring points provided the outfalls have substantially identical effluents. Substantially identical effluents are discharges from drainage areas serving similar activities where the discharges are expected to be similar in composition. Outfalls serving areas with no exposure of storm water to industrial activities are not required to be monitored.
- d) **Monitoring Location** All samples must be taken at monitoring points specified in the SWPCP before the storm water joins or is diluted by any other wastestream, body of water or substance unless otherwise approved in writing by the Department.

2. Monitoring Reduction

- a) **Visual Observations** There is no reduction allowed of the required visual observations.
- b) **Grab Samples** The permittee is not required to conduct sampling if the benchmarks specified in Schedule A.8 are met, or if the exceedance is due to natural or background conditions for at least four consecutive storm water monitoring events conducted by the permittee over 24 continuous months. Note that there is no reduction in monitoring allowed for facilities subject to limitations under CFR (Schedule A.7).
- i) Results from sampling events cannot be averaged to meet the benchmarks.

- ii) Monitoring waivers may be allowed for individual parameters.
 - iii) Parameters in exceedance or not previously sampled must be monitored as required in Schedule B.1 until the monitoring waiver condition above is met.
 - iv) Monitoring data from the previous permit period may be used to meet the waiver requirement. This data must be evaluated against the benchmarks specified in this permit.
 - v) Monitoring data from the same storm event must be used to demonstrate that background or natural conditions not associated with industrial activities at the site are contributing to the exceedance of a benchmark.
 - vi) The permittee must submit written notification to the Department when exercising the monitoring waiver condition (refer to Schedule B.3.b).
- c) **Reinstatement of Monitoring Requirements**
- i) The permittee must conduct monitoring as specified in Schedule B.1 if changes to site conditions are expected to affect storm water discharge characteristics.
 - ii) The Department may reinstate monitoring requirements as specified in Schedule B.1 if prior monitoring efforts were improper or results were incorrect. The Department will notify the permittee of reinstatement in writing.
 - iii) Monitoring may also be reinstated if future sampling efforts by the permittee or the Department indicate benchmarks are being exceeded.
 - iv) If no monitoring was performed during the previous permit period, the permittee must reinitiate monitoring as specified in Schedule B.1 to qualify for the monitoring reduction allowed in Schedule B.2.
3. **Reporting Requirements** The permittee must submit the following to the appropriate DEQ regional office (DEQ will provide regional office information when the permittee is notified that permit coverage has been obtained):
- a) **Monitoring Data** The permittee must submit by July 15 of each year grab sampling and visual monitoring data for the previous monitoring period (July 1- June 30). If there was insufficient rainfall to collect samples, the permittee must notify the Department by July 15 of each year. The permittee must also report the minimum detection levels and analytical methods for the parameters analyzed.
 - b) **Monitoring Reduction Notification** The permittee must submit written notification when exercising the monitoring reduction condition in Schedule B.2.b.
 - c) **Initial Completion or Update of SWPCP** The permittee must prepare or update the SWPCP in accordance with Schedule C of the permit. The permittee must submit an updated or completed SWPCP within 14 days after completion.
 - d) **SWPCP Revision (when benchmarks are exceeded)** The permittee must submit any revisions to the SWPCP required by Schedule A.9 within 14 days after the SWPCP is revised. If the Department does not review and comment on the revised SWPCP within 30 days, the permittee must implement the revisions as proposed. The permittee may proceed immediately with implementation of the following management practices as described in Schedule A.2.b without waiting for Department comment: waste chemical and materials disposal, debris control, storm water diversion, covering activities, housekeeping, and preventative maintenance.

**SCHEDULE C
COMPLIANCE CONDITIONS AND SCHEDULES**

1. **Existing Permittee** (for a facility with an NPDES storm water discharge permit assigned prior to June 30, 2002):
 - a) Not later than 90 days after receiving this permit, the existing permittee must revise and begin implementation of the SWPCP to meet any new permit requirements.
 - b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP must be implemented within 90 days after revision of SWPCP. Site control activities that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP.
2. **New Permittee with Existing Facility** (for a facility operating prior to June 30, 2002, without an NPDES storm water discharge permit):
 - a) Not later than 90 days after receiving this permit, the new permittee must prepare and begin implementation of the SWPCP.
 - b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP must be implemented within 90 days after completion of SWPCP. Site control activities that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP.
3. **New Permittee with New Facility** (for a facility beginning operation after June 30, 2002):
 - a) Prior to starting operations, a new permittee must prepare and begin implementation of the SWPCP.
 - b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP must be implemented within 90 days after beginning operation. Site control activities that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP.
4. **New Permittee Discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15) or North Santiam River.** Not later than 180 days after receiving this permit, new permittees discharging to Clackamas River, McKenzie River above Hayden Bridge (river mile 15) or North Santiam River must submit to the Department a monitoring and water quality evaluation program. This program must be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-041-0470. Within 30 days after Department approval, the permittee must implement the monitoring and water quality evaluation program. For the purpose of this condition, new permittees include potential or existing dischargers that did not have a permit prior to January 28, 1994, and existing dischargers that have a permit but request an increased load limitation.

**SCHEDULE D
SPECIAL CONDITIONS**

1. **Releases in Excess of Reportable Quantities.** This permit does not relieve the permittee of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.
2. **Availability of SWPCP and Monitoring Data.** The Storm Water Pollution Control Plan and/or storm water monitoring data must be made available to government agencies responsible for storm water management in the permittee's area.
3. **Definitions**
 - a) *Capital Improvements* means the following improvements that require capital expenditures:
 - i) Treatment best management practices including but not limited to settling basins, oil/water separation equipment, catch basins, grassy swales, detention/retention basins, and media filtration devices.
 - ii) Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
 - iii) Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of storm water to treatment systems.
 - iv) Roofs and appropriate covers for manufacturing areas.
 - b) *Hazardous Substances* as defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.
 - c) *Material Handling Activities* include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.
 - d) *Point Source* means a discharge from any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, or conduit.
 - e) *Significant Materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with storm water discharges.
4. **Local Public Agencies Acting as the Department's Agent**

The Department authorizes local public agencies to act as its Agent in implementing this permit. The Department's Agent may be authorized to conduct the following activities, including but not limited to: application review and approval, inspections, monitoring data review, storm water and wastewater monitoring, SWPCP review, and verification and approval of no-exposure certifications. Where the Department has entered into such an agreement, the Department or its Agent will notify the permittee of where to submit monitoring data, SWPCPs, no-exposure certifications, and other notifications or correspondence associated with this permit.

SCHEDULE F NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison.

3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply to have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- d. The permittee shall pay the fees required to be filed with this permit application and to be paid annually for permit compliance determination as outlined in the Oregon Administrative Rules, Chapter 340, Division 045.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee must comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited unless:
 - (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under General Condition B.3.c.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior written notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
 - (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter must be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

- (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

- (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
- (3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee must take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which must be retained for a period of at least five years (or longer as required by 40 CFR §503), the permittee must retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee must allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee must comply with Oregon Administrative Rules (OAR) 340, Division 052, "Review of Plans and Specifications". Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers must be commenced until the plans and specifications are submitted to and approved by the Department. The permittee must give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee must give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit must be transferred to a third party without prior written approval from the Director. The permittee must notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee must report any noncompliance which may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;

- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following must be included as information which must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
- b. Any upset which exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee must furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR §122.22.

9. Falsification of Reports

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - [Applicable to Publicly Owned Treatment Works (POTW) only]

The permittee must provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - [Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]

The permittee must notify the Department as soon as they know or have reason to believe of the following:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

- (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR §122.44(f).
-

- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR §122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR §125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT**

Oregon Department of Environmental Quality
Northwest Region Office
2020 SW 4th Avenue, Suite 400, Portland, OR 97201
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and the Federal Clean Water Act

ISSUED TO:

Permittee:

Vigor Industrial LLC
5555 N Channel Ave.
Portland, OR 97217

SOURCES COVERED BY THIS PERMIT:

Type of Waste

Outfall
Number

Outfall
Location

Treated ballast/bilge water and tank
wash water

001

R.M. 7.6

Treated dry dock process water and
storm water

002

R.M. 7.6

Non-contact cooling water

005, 006,
007, & 008

R.M. 7.8

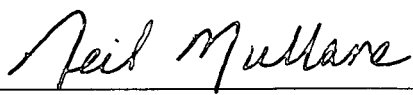
PLANT TYPE AND LOCATION: RECEIVING STREAM INFORMATION:

Ship Repair Yard
Swan Island
5555 N. Channel Avenue
Portland, Oregon

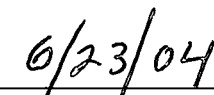
Basin: Willamette
Sub-Basin: Lower Willamette
Receiving Stream: Willamette River
Hydro Code: 22--WILL 7.6 D, 7.8 D
LLID: 1227618456580/27.5
County: Multnomah

EPA REFERENCE NO : OR 002294-2

This permit is issued in response to Renewal Application No. 987686 received June 6, 2001. Supplemental information received on November 7, 2001 and February 20, 2004.



Neil Mullane, Manager
Water Quality Programs
Northwest Region



Date

Permit No. 101393
File Number: 70596
Expiration Date: 3/31/2009
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Permitted Activities

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

	Page
Schedule A - Waste Discharge Limitations	3-4
Schedule B - Minimum Monitoring and Reporting Requirements	5-6
Schedule C - Compliance Conditions and Schedules	7
Schedule D - Special Conditions	8-10
Schedule E - Industrial Pretreatment	Not Applicable
Schedule F - General Conditions	11-20

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

Schedule A
Waste Discharge Limitations

1. Outfall 001: Treated Ballast/Bilge Water and Tank Wash Water

Parameter	Daily Maximum
Flow	1.0 mgd
Total Suspended Solids	50 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.34 mg/L
Zinc ¹	2.6 mg/L
pH	Within the range 6.0 – 9.0 S.U.

¹Total recoverable

2. Outfall 002: Treated Dry Dock Process Water and Storm Water (upon permit issuance): No discharge to surface waters.

Until such time as the permittee demonstrates that the discharge from outfall 002 does not exhibit toxicity, there shall be no discharge to surface waters. To demonstrate that the discharge does not exhibit toxicity, the permittee must submit to the Department a plan for addressing toxicity issues. At a minimum, the plan must include modifications to the process and/or treatment facilities as well as provisions for conducting Whole Effluent Toxicity (WET) testing of each batch of treated wastewater from the dry dock treatment system. Upon successful demonstration that the discharge does not exhibit toxicity, the permittee may commence discharge to surface waters in accordance with the requirements of Schedule A.3.

3. Outfall 002: Treated Dry Dock Process Water and Storm Water (upon commencement of discharge to surface waters)

Parameter	Daily Maximum
Total Suspended Solids	10 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.23 mg/L
Lead ¹	0.15 mg/L
Tri-butyl tin ¹	0.02 mg/L
Zinc ¹	1.0 mg/L
pH	Within the range 6.0 – 9.0 S.U.

¹Total recoverable

4. **Outfalls 003 & 004:** These discharges were associates with dry dock 4, which is no longer in place.
5. **Outfalls 005, 006, 007, & 008:** Non-contact cooling water.

Parameter	Limitation
Temperature	184 x 10 ⁶ Kcal/day (daily maximum)

6. **Mixing Zones**

Except as provided for in Oregon Administrative Rule (OAR) 340-045-0080, no wastes may be discharged and no activities may be conducted that violate Water Quality Standards as adopted in OAR 340-041 except in the defined mixing zone:

Outfall 001/002: The allowable mixing zone is that portion of the Willamette River within a 10-meter radius from the points of discharge (i.e. the multi-port outfall diffuser). The Zone of Immediate Dilution (ZID) is that portion of the Willamette River within a 3-meter radius from the outfall diffuser.

Outfall 005, 006, 007 and 008: The allowable mixing zone is that portion of the Willamette River within a 10-meter radius from the point of discharge.

7. **Compliance Locations**

Outfall 001: This outfall is defined as the discharge from the holding tanks used to hold the treated ballast/bilge water for testing prior to discharge to the Willamette River. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.

Outfall 002: This outfall is defined as the discharge from the holding tanks used to hold treated water from the dry dock treatment system. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.

Outfall 005: This outfall is defined as the discharge from the south sally ports of Dry Dock 3. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the south sally ports.

Outfall 006: This outfall is defined as the discharge from the north sally ports of Dry Dock 3. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the south sally ports.

Outfall 007: This outfall is defined as the discharge from the south sally ports of Dry Dock 1. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the south sally ports.

Outfall 008: This outfall is defined as the discharge from the north sally ports of Dry Dock 1. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the south sally ports.

Schedule B Minimum Monitoring and Reporting Requirements

1. Monitoring Requirements

a) Outfall 001 (Treated Ballast/Bilge Water and Tank Wash Water):

Parameter	Minimum Frequency	Sample Type
Flow	Once for each batch	Measure
Copper ¹	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Total Suspended Solids	Once for each batch	Grab
Total Dissolved Solids	Once for each batch	Grab

¹ Total recoverable

b) Outfall 002 (Treated Dry Dock Process Water and Storm Water):

Parameter	Minimum Frequency	Sample Type
Flow	Once per each batch	Measure
Copper ¹	Once for each batch	Grab
Lead ¹	Once for each batch	Grab
Tri-butyl tin ^{1, 2}	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Suspended Solids	Once for each batch	Grab
Iron ^{1, 3}	Once for each batch	Grab
Manganese ^{1, 3}	Once for each batch	Grab
Whole Effluent Toxicity Testing ⁴	2/year	Grab
Priority Pollutant Scan ⁵	1/year	Grab

¹ Total recoverable

² Sampling for tri-butyl tin is required when surface preparation is performed on the underwater hull of vessels containing tri-butyl tin coatings

³ Sampling is proposed until such time as Cascade General collects 4 samples for these parameters

⁴ Monitoring must be conducted in March/April and September/October. Results are to be reported the month following receipt of test results.

⁵ The permittee must perform chemical analysis of the effluent for the specific toxic pollutants listed in Tables II and III of Appendix D of 40 CFR 122 in accordance with the sampling frequency specified above.

The effluent samples must be 24-hour composites, except where sampling volatile compounds and cyanide. For these pollutants, at least four discrete samples (not less than 100 mL) collected over the operating day are acceptable. The permittee must take special precautions in compositing the individual grab samples for the volatile organics to ensure sample integrity (i.e. no exposure to outside air). Alternatively, the discrete samples collected for volatiles may be analyzed separately and averaged. For cyanide, each aliquot must be collected and composited into a larger container which has been preserved with sodium hydroxide to insure sample integrity.

c) Outfalls 005, 006, 007, and 008: Non-contact cooling water

Parameter	Minimum Frequency	Sample Type
Flow	Once for each vessel	Measure
Temperature	Once for each vessel	Measure
Excess Thermal Load (Daily Maximum) ⁵	Once for each vessel	Calculate

⁵ The daily maximum excess thermal load must be calculated using the daily maximum temperature and the total discharge flow for the day. Excess thermal loads must be calculated using the formula below. If the calculation results in a thermal load value less than zero, the results must be recorded as zero.

$$ETL = \Delta T * Q * C_p * SW * 0.252$$

Where:

ETL = Excess thermal load (10⁶ Kcal/day)

ΔT = effluent temperature (°F) minus criterion (68°F)

Q = Discharge flow (mgd)

C_p = Specific heat of water (1 Btu/lb °F)

SW = Specific weight in lb/gallon (8.34 lb/gallon)

0.252 = conversion from million BTU/day to Kcals/day

2. Reporting Requirements

- a) **Reporting Frequency.** Monitoring results must be reported on approved forms. Reports must be submitted to the Department's Northwest Region – Portland Office by the 15th day following the reporting month.

The permittee must monitor the parameters as specified above at the locations indicated. The laboratory used by the permittee to analyze samples must have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis, the results must be included in the report, but not used in the calculations required by this permit. When possible, the permittee must re-sample in a timely manner for parameters failing QA/QC requirements, analyze samples, and report results.

- b) **Reporting of Non-Detect Sample Results.** For all pollutants, if a value is less than the permit limit and less than the "minimum level (ML)", the permittee must report " \leq ML in mg/L" for the parameter. For example, if the ML for a pollutant is 10 µg/L and the value of the analytical result is below the ML, the permittee must report " \leq 0.010 mg/L" in the Discharge Monitoring Report.
- c) **Monitoring Records Prepared in Ink.** All bench sheets, laboratory analysis sheets, and other records to support the data reported on the Discharge Monitoring Report (DMR) must be prepared in ink. Pencil entries or *liquid paper* corrections must be prohibited by appropriate laboratory operating procedures. Changes to any supporting records that may be required to correct the original data must be made by lining through the original data. The date of the change and the initials of the individual making the change must be recorded in ink adjacent to the change.

Permit No. 101393
File Number: 70596
Expiration Date: 3/31/2009
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Schedule C

Compliance Conditions and Schedules

1. **Priority Pollutant Scan.** Within sixty (60) days of permit issuance, the permittee must submit the results of a priority pollutant scan (organic pollutants and metals) at outfall 001 to the Department. If the permittee is not discharging wastewater through outfall 001 during this period, the results of the priority pollutant scan must be provided within sixty (60) days after commencement of the discharge. The Department will evaluate the results of the priority pollutant scan to determine if there are any additional pollutants of concern that warrant effluent limits at outfall 001. If additional pollutants of concern that warrant effluent limits are identified, the Department will re-open the NPDES permit to incorporate the effluent limits.
2. **Environmental Best Management Practices.** Within ninety (90) days of permit issuance, the permittee must update its Environmental Best Management Practices (BMPs) for the Portland Shipyard and confirm that facility is implementing its BMPs. Any additional BMPs must be implemented within 90 days after submittal of the BMP plan.
3. The permittee is expected to meet the compliance dates that have been established in this schedule. Either prior to or no later than 14 days following any lapsed compliance date, the permittee must submit to the Department a notice of compliance or noncompliance with the established schedule. The Director may revise a schedule of compliance if he determines good and valid cause resulting from events over which the permittee has little or no control.

Schedule D Special Conditions

1. Bioassay Testing

- a. The permittee must conduct whole effluent toxicity tests as specified in Schedule B of this permit.
- b. Bioassay tests may be dual end-point tests, only for the fish tests, in which both acute and chronic end-points can be determined from the results of a single chronic test (the acute end-point must be based upon a 48-hour time period).
- c. Acute Toxicity Testing - Organisms and Protocols
 - (1) The permittee must conduct 48-hour static renewal tests with the *Ceriodaphnia dubia* (water flea) and the *Pimephales promelas* (fathead minnow).
 - (2) The presence of acute toxicity will be determined as specified in **Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, Fourth Edition, EPA/600/4-90/027F, August 1993 or newer.
 - (3) An acute bioassay test will be considered to show toxicity if there is a statistically significant difference in survival between the control and dilutions greater than that which is found to occur at the edge of the ZID established in Schedule A.4.
- d. Chronic Toxicity Testing - Organisms and Protocols
 - (1) The permittee must conduct tests with: *Ceriodaphnia dubia* (water flea) for reproduction and survival test endpoint, *Pimephales promelas* (fathead minnow) for growth and survival test endpoint, and *Raphidocelis subcapitata* (green alga formerly known as *Selanastrum capricornutum*) for growth test endpoint.
 - (2) The presence of chronic toxicity must be estimated as specified in **Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, Third Edition, EPA/600/4-91/002, July 1994 or newer.
 - (3) A chronic bioassay test will be considered to show toxicity if a statistically significant difference in survival, growth, or reproduction occurs at dilutions greater than that which is known to occur at the edge of the mixing zone established in Schedule A.4.
- e. Quality Assurance
 - (1) Quality assurance criteria, statistical analyses and data reporting for the bioassays must be in accordance with the EPA documents stated in this condition and the Department's **Whole Effluent Toxicity Testing Guidance Document**, January 1993 or newer.
- f. Evaluation of Causes and Exceedances
 - (1) If toxicity is shown, as defined in sections c.(3) or d.(3) of this permit condition, another toxicity test using the same species and Department approved methodology must be conducted within two weeks, unless otherwise approved by the Department. If the second test also

indicates toxicity, the permittee must follow the procedure described in section f.(2) of this permit condition.

- (2) If two consecutive bioassay test results indicate acute and/or chronic toxicity, as defined in sections c.(3) or d.(3) of this permit condition, the permittee must evaluate the source of the toxicity and submit a plan and time schedule for demonstrating compliance with water quality standards. Upon approval by the Department, the permittee must implement the plan until compliance has been achieved. Evaluations must be completed and plans submitted to the Department within 6 months unless otherwise approved in writing by the Department.

g. Reporting

- (1) Along with the test results, the permittee must include: 1. the dates of sample collection and initiation of each toxicity test; 2. the type of production; and 3. the flow rate at the time of sample collection. Effluent at the time of sampling for bioassay testing should include samples of required parameters stated under Schedule B.1.a of this permit.
- (2) The permittee must make available to the Department, on request, the written standard operating procedures they, or the laboratory performing the bioassays, are using for all toxicity tests required by the Department.

h. Reopener

- (1) If bioassay testing indicates acute and/or chronic toxicity, the Department may reopen and modify this permit to include new limitations and/or conditions as determined by the Department to be appropriate, and in accordance with procedures outlined in Oregon Administrative Rules, Chapter 340 - Division 45.

2. Re-opening of Permit

This permit may be reopened for the inclusion of additional limitations, monitoring requirements, or both. Upon completion of the Total Maximum Daily Load for the Willamette River, and the assignment of a Waste Load Allocation (WLA) to the Permittee, the WLA shall be incorporated into this permit, or subsequent permit renewal.

3. Spills and Unplanned Discharges

An adequate contingency plan for prevention and handling of spills and unplanned discharges must be in place at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good in-plant control and quick and proper action in the event of a spill or accident.

4. Environmental Supervision and Management

The permittee must designate an environmental supervisor to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment, and disposal facilities. This person shall be allowed access to all information relevant to the generation of wastes in the various process areas.

5. Annual Update of Environmental Best Management Practices Plan

By March 1 of each year, the permittee must update its Environmental Best Management Practices (BMPs) Plan for the Portland Shipyard to incorporate solutions to problems encountered during the previous calendar year or new practices learned during the previous calendar year. In its update, the permittee must notify the Department that the Environmental BMP Plan has been updated and must provide a summary of changes proposed or implemented to improve the BMPs for the upcoming year.

The permittee must ensure that all applicable Environmental BMPs are employed at all times.

6. Containment Booms

The permittee must use floating containment booms around all ships while transferring fuel in the shipyard. Permanent oil containment booms must be installed on the inside of the outermost pier pilings and around all dry dock areas.

7. Pollution Prevention Program

A program of pollution prevention must be maintained with the purpose to: (1) reduce, recycle and reuse water, stock, and chemicals, (2) substitute less toxic chemicals for more toxic chemicals, (3) eliminate the use of certain chemicals, and (4) use best management practices (BMPs) to improve housekeeping and spill response through better training and better operations and maintenance procedures.

8. Discharge of Uncontaminated Storm Water

The permittee is authorized to discharge storm water from the dry dock directly to the Willamette River if no work is being performed on the dry docks and the dry docks have been cleaned in accordance with the Environmental Best Management Practices (BMPs) for the Portland Shipyard.

Schedule F General Conditions

SECTION A. STANDARD CONDITIONS

1. **Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. **Penalties for Water Pollution and Permit Condition Violations**

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit.

In addition, a person who unlawfully pollutes water as specified in ORS 468.943 or ORS 468.946 is subject to criminal prosecution.

3. **Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. **Duty to Reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. **Permit Actions**

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. **Toxic Pollutants**

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited unless:

- (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under General Condition B.3.c.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).
- c. Notice and request for bypass.
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
 - (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

- (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

- (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
- (3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information that must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
- b. Any upset which exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Information

A person who supplies the Department with false information, or omits material or required information, as specified in ORS 468.953 is subject to criminal prosecution.

10. Changes to Indirect Dischargers - **[Applicable to Publicly Owned Treatment Works (POTW) only]**

The permittee must provide adequate notice to the Department of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - **[Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]**

The permittee must notify the Department as soon as they know or have reason to believe of the following:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:

- (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (1) Five hundred micrograms per liter (500 µg/L);
 - (2) One milligram per liter (1 mg/L) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR 122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/L means milligrams per liter.
4. kg means kilogram.
5. m³/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken at least one time per hour and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
10. CBOD means five-day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.
18. L/s means liters per second.
19. µg/L means microgram per liter.
20. °C means degrees Celsius.
21. TU_a means acute toxicity units.
22. TU_c means chronic toxicity units.
23. NOEC means "no observed effect concentration."
24. LC₅₀ means the effluent concentration at which 50 percent of the test organisms died.
25. "Shall" means a mandatory action or requirement; a duty to perform a specified function or activity.

26. "Must" means the same as "shall."
 26. "May" or "Should" mean permissive; optional; not required.
 27. m^3/s means cubic meters per second
 28. RM means river mile (above mouth)
 29. Rkm means river kilometer (above mouth)
 30. "t" or "ton" means a mass of 1000 kg
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Public Notice

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT Fact Sheet/Permit Evaluation Report

Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201
503-229-5263 FAX 503-229-6945

Vigor Industrial



Permittee: Cascade General, Inc. Portland Shipyard	Facility Location: 5555 North Channel Avenue Portland, Oregon 97217
Sources Covered: Treated ballast/bilge water and tank wash water (outfall 001) Treated process wastewater and storm water runoff from dry docks (outfall 002) Non-contact cooling water (outfalls 005-008)	Receiving Stream: Willamette River
Source Category: Minor Industrial	Proposed Action: Issuance of renewal permit
File Information: WQ-Multnomah County File No. 70596 EPA Reference No.: OR002294-2	Source Contact: T. Alan Sprott Director of Environmental Services (503) 247-1672
Prepared by: Raj Kapur 503-229-5156 Northwest Region – Water Quality	Date Prepared: March 2004 Updated: May 2004

1.0 Description of Proposed Action

Cascade General owns and operates the Portland Shipyard on Swan Island. A National Pollutant Discharge Elimination System (NPDES) permit was issued by the Department of Environmental Quality (Department) to the Port of Portland on July 16, 1996 (1996 NPDES permit). After Cascade General purchased the shipyard from the Port of Portland, the permit was subsequently transferred to Cascade General on September 2, 1996. The permit was modified on May 8, 1998 to add non contact cooling water discharges from ships in dry dock. The permit expired on June 30, 2001. The Department received Cascade General's NPDES permit renewal application on June 6, 2001. Supplemental information was provided on November 7, 2001 and February 20, 2004. Since a renewal application was submitted to the Department, Cascade General has continued to operate under the terms and conditions of the 1996 NPDES permit pending Department action on the renewal application. The Department is now proposing to renew the NPDES permit for Cascade General.

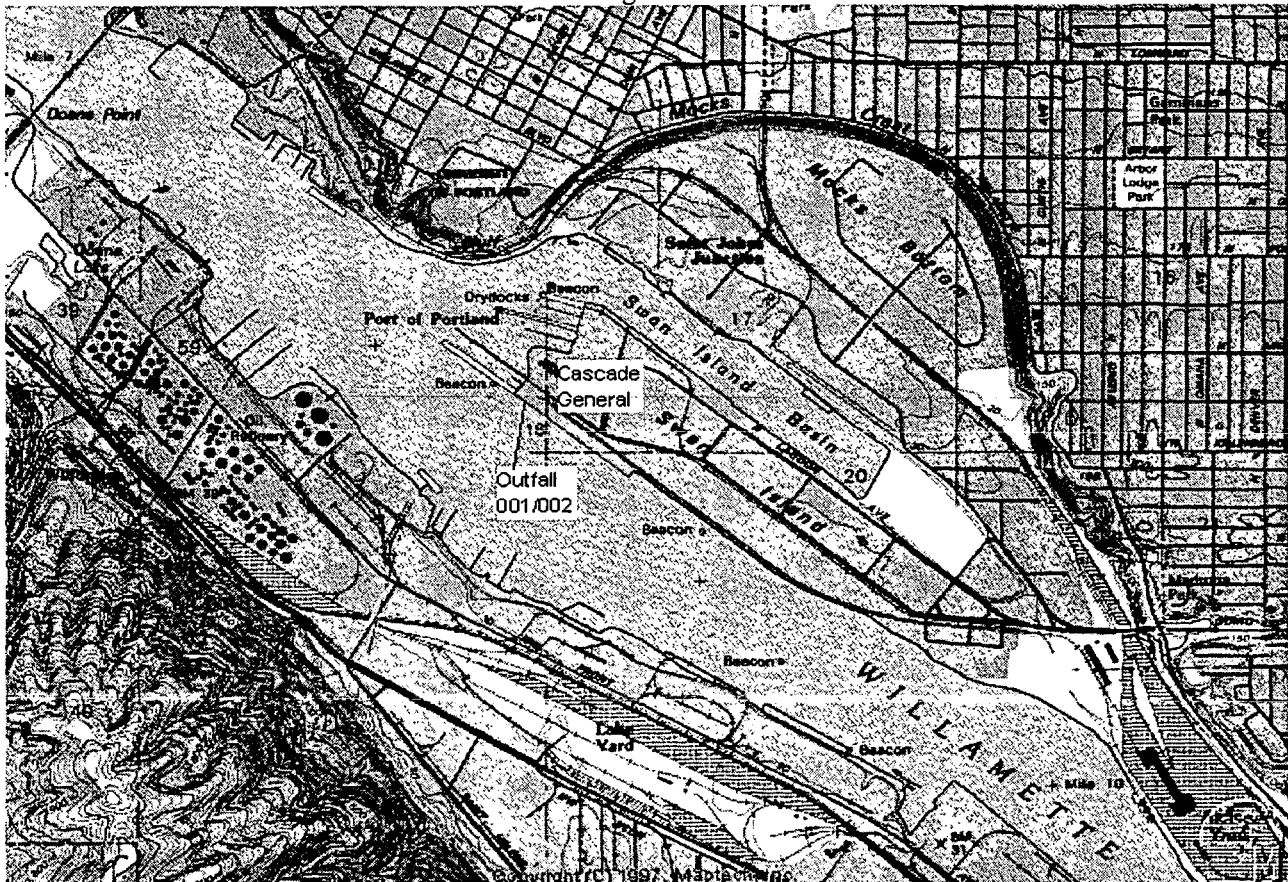
The Federal Water Pollution Control Act of 1972 and subsequent amendments require a NPDES for the discharge of wastewater to surface waters. Furthermore, Oregon Revised Statutes (ORS 468B.050) also requires a permit for the discharge of wastewater to surface waters. This proposed permit action by the Department fulfills both federal and state requirements.

2.0 Facility Description

2.1 General

Cascade General owns and operates the Portland ship repair yard on Swan Island (Figure 1).

Figure 1



Ships are serviced and repaired while tied at berths or while in the dry docks. Repair activities include cleaning and painting of ship hulls. The ship repair industry on the west coast is losing market share to overseas ship repair yards. With the removal of Dry Dock 4, Cascade General is out of the market for the servicing/repair of large ships (i.e. supertankers and cruise ships). So the activities conducted at the facility will result in wastewater discharges well below those during the previous permit cycle.

2.2 Wastewater Discharges

Cascade General discharges wastewater from two different sources to the Willamette River through the same pipe. Outfall 001 discharges treated ballast/bilge water from ships and treated tank wash water. The treatment consists of settling, oil skimming, heating and further skimming, and an oil-water separation. The wastewater is treated on a batch basis and the treated wastewater is sampled prior to discharge to surface waters. If the treated wastewater does not meet applicable permit limits, the wastewater is discharged to the City of Portland sanitary sewer. The oil recovered from the treatment process is stored in holding tanks. It is periodically tested and sold to recyclers. Waste materials from the settling tanks are disposed in a landfill. The NPDES permit renewal application states that the average flow rate discharged from outfall 001 is 0.23 mgd and the maximum flow rate is 0.35 mgd. As a result of a slow down in the ship repair industry and because Cascade General discharging more wastewater to the sanitary sewer, recent data (January 2003 to December 2003) indicates that there was a discharge only during one month (June 2003).

Outfall 002, which discharges storm water from the dry dock and process wastewater, also goes to the Willamette River through the same pipe as Outfall 001. The process wastewater is generated from ship repair and maintenance activities including hydroblasting, pressure washing, sand blasting, painting, and other repair/maintenance activities. These waste streams are collected from the dry dock and directed to a treatment system separate from the ballast water treatment system. The treatment system for the dry dock storm water and process wastewater includes equalization, grit removal, flocculation, clarification and filtration. Until December 2002, the treatment system for the dry dock storm water and process wastewater was a flow-through system. To address effluent limitations violations in its NPDES Permit, Cascade General has modified its treatment system and has discharged in a batch mode. The flow rate is dependent on rainfall. The NPDES permit renewal application states that the long-term average discharge flow is 0.1 mgd. Recent data indicates that there have been limited discharges from this outfall from January 2003 to December 2003. The facility has discharged five of the 12 months during this period with a maximum discharge rate of 0.83 mgd. When storm water and wastewater from the dry dock are being discharged, ballast water is not discharged. Thus, these waste streams are sampled separately.

Outfalls 003 and 004 used to discharge non-contact cooling water from ships at dry dock 4. Dry dock 4 has been removed and these outfalls no longer discharge.

Outfalls 005, 006, 007, and 008 discharge non-contact cooling water from ships in dry docks 1 and 3. Some ships need to operate refrigeration, air conditioning, and heat exchangers while the ship is undergoing repairs in dry dock. So water from the river is circulated for cooling and discharged back to the river. The non-contact cooling water is discharged through opening on the sides of the dry dock called sally ports. The estimated flow varies greatly depending on the ships being repaired. The NPDES permit application states notes that the average non-contact cooling water discharge rate is 0.16 mgd with a maximum of 0.35 mgd.

Except for the storm runoff from the dry docks, all other storm waters at the facility are covered by a separate NPDES permit (the industrial storm water general permit (1200-Z)). Cascade General also accepts wastewaters generated at other facilities. These wastewaters are treated at the Cascade General facility and discharged to the City of Portland's sanitary sewer. Accepting these wastewaters subjects Cascade General to EPA's Centralized Waste Treatment (CWT) requirements. Since these waste streams are discharged to the sanitary sewer, the CWT requirements are implemented through the industrial wastewater permit issued by the City of Portland. The NPDES permit does not authorize the discharge of CWT wastewaters.

2.3 Best Management Practices

The 1998 NPDES permit required Cascade General to develop and implement Environmental Best Management Practices (BMPs). In response to the permit requirement, Cascade General developed BMPs to reduce the impact of ship yard activities on the environment. The BMPs were last updated in 1998. The NPDES permit requires Cascade General to update its BMPs and submit them to the Department within 90 days of permit issuance.

3.0 Water Quality Issues

The applicable water quality standards are found in Oregon Administrative Rule (OAR) 340-041. They are intended to be protective of the beneficial uses for the basin, which include domestic water supply, industrial water supply, irrigation, livestock watering, anadromous fish passage, resident fish and aquatic life, salmonid spawning and rearing, wildlife, hunting, fishing, boating, water contact recreation, aesthetic quality, and commercial navigation and transportation. Selected water quality standards for the Willamette River are presented in Table 1.

TABLE 1 SELECTED WILLAMETTE RIVER WATER QUALITY CRITERIA	
Parameter	In-stream Water Quality Criteria
Dissolved Oxygen (OAR 340-041-0016)	Cool Water Aquatic Life Criteria (applies in summer): ≥ 6.5 mg/L (absolute minimum for surface samples)
Temperature (OAR 340-041-0028)	The 7-day average maximum temperature of a stream identified as a migration corridor may not exceed 20 °C (68 °F)
pH (OAR 340-041-0021)	≥ 6.5 and ≤ 8.5
Turbidity (OAR 340-041-0036)	No more than a ten percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity.
Total Dissolved Solids (OAR 340-041-0032)	The concentrations listed below may not be exceeded unless otherwise specifically authorized by DEQ – 100 mg/L

3.2 Water Quality Criteria for Toxic Substances

Table 20 of OAR 340-041 specifies water quality criteria for toxic substances. The water quality criteria for several metals are based on hardness. For the Willamette River, a hardness of 25 mg/L was used to calculate water quality criteria for hardness dependent metals. Water quality criteria for selected toxic constituents are given below:

TABLE 2 WATER QUALITY CRITERIA FOR TOXIC SUBSTANCES			
Parameter	Unit	Criteria for Protection of Freshwater Aquatic Life	
		Acute	Chronic
Arsenic III	µg/L	360	190
Cadmium	µg/L	^a 0.9	^a 0.41
Chromium III	µg/L	^a 558	^a 66.5
Copper	µg/L	^a 5.16	^a 3.86
Lead	µg/L	^a 15.75	^a 0.61
Mercury	µg/L	2.4	0.012
Zinc	µg/L	^a 38.6	^a 34.95
Nickel	µg/L	^a 469	^a 52
Iron	µg/L	N/A	1000
^a Hardness dependent criteria. A hardness of 25 mg/L was used for the Willamette River. This is based on water quality data collected by the Portland Bureau of Environmental Services at the St. Johns Railroad Bridge at RM 6.8 (1995-2001).			

3.3 303(d) Listing Status

Section 303(d) of the Clean Water Act requires each state to develop a list of water bodies that do not meet state surface water quality standards after implementation of technology-based controls. The state is then required to complete a Total Maximum Daily Load (TMDL) program for water bodies on the 303(d) list. The TMDL program must address water quality on a basin-wide scale to ensure that overall water quality standards will be met. The Clean Water Act prohibits new or increased discharges until a TMDL has been established for 303(d) water bodies, unless the discharge does not contribute pollutants that cause the stream to violate water quality standards.

Cascade General discharges wastewater to the portion of the Willamette River that is listed as being water quality limited in the Department's 2002 303(d) list of streams. Table 3 includes the parameters for which water quality standards in the Willamette River are not met and the season when standards are exceeded:

TABLE 3
2002 303(D) LISTING INFORMATION

Stream Segment	Parameter	Season
Willamette River (Mouth to Willamette Falls)	Aldrin	Year-around
	Bacteria (fecal coliform)	Fall/Winter/Spring
	Biological Criteria	Year-around
	DDT & DDE (DDT metabolite)	Year-around
	Dieldrin	Year-around
	Iron	Year-around
	Manganese	Year-around
	Mercury	Year-around
	Polychlorinated Biphenyls (PCBs)	Year-around
	Pentachlorophenol	Year-around
	Polycyclic Aromatic Hydrocarbons (PAHs)	Year-around
	Temperature	Summer

The TMDL for the Willamette River is scheduled to be completed in 2004. As part of this permit renewal, the Department will evaluate the potential for the discharge from the Cascade General facility to contain pollutants in the 303(d) list.

3.4 Threatened & Endangered Species

Species of anadromous salmonids that use the lower Willamette River near the Cascade General site include chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), and cutthroat trout (*O. clarki*). Resident salmonid game species include cutthroat trout. Bull trout do not occur in this area of the Willamette River.

On March 16, 1999, the National Marine Fisheries Service (NMFS) listed chinook salmon in the Lower Columbia River Evolutionary Significant Unit (ESU) as a threatened species under the Endangered Species Act (ESA). On March 13, 1998, NMFS listed the Lower Columbia River ESU steelhead trout stocks as a threatened species under the ESA. These species utilize the Willamette River and its tributaries. The Willamette River has been designated as critical habitat for listed chinook salmon and steelhead trout by the NMFS.

The Willamette River near Cascade General contains little in-stream habitat diversity and has a substrate primarily composed of sand and silt. Therefore, this area of the Willamette River does not provide spawning habitat for salmonids. The Willamette River near Cascade General is primarily used by salmonids for upstream and downstream migratory purposes, although some rearing and feeding activities by juveniles likely occur during their downstream migration. Anadromous salmonids can typically be found in the Willamette River near Cascade General throughout the year as indicated in Figure 2, "Anadromous Species Use and Timing in the Willamette River near Portland, Oregon".

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Although different juvenile salmonid species emigrate at different times of the year, in general there is a peak outmigration in the spring and a smaller peak in the fall. Data from the Portland General Electric (PGE) Sullivan Dam elevator study (PGE, 1999) at Willamette Falls shows emigration times of juvenile salmonids typically occurring from mid February through June with a smaller secondary peak of spring chinook salmon in October through mid-November (Figure 3).

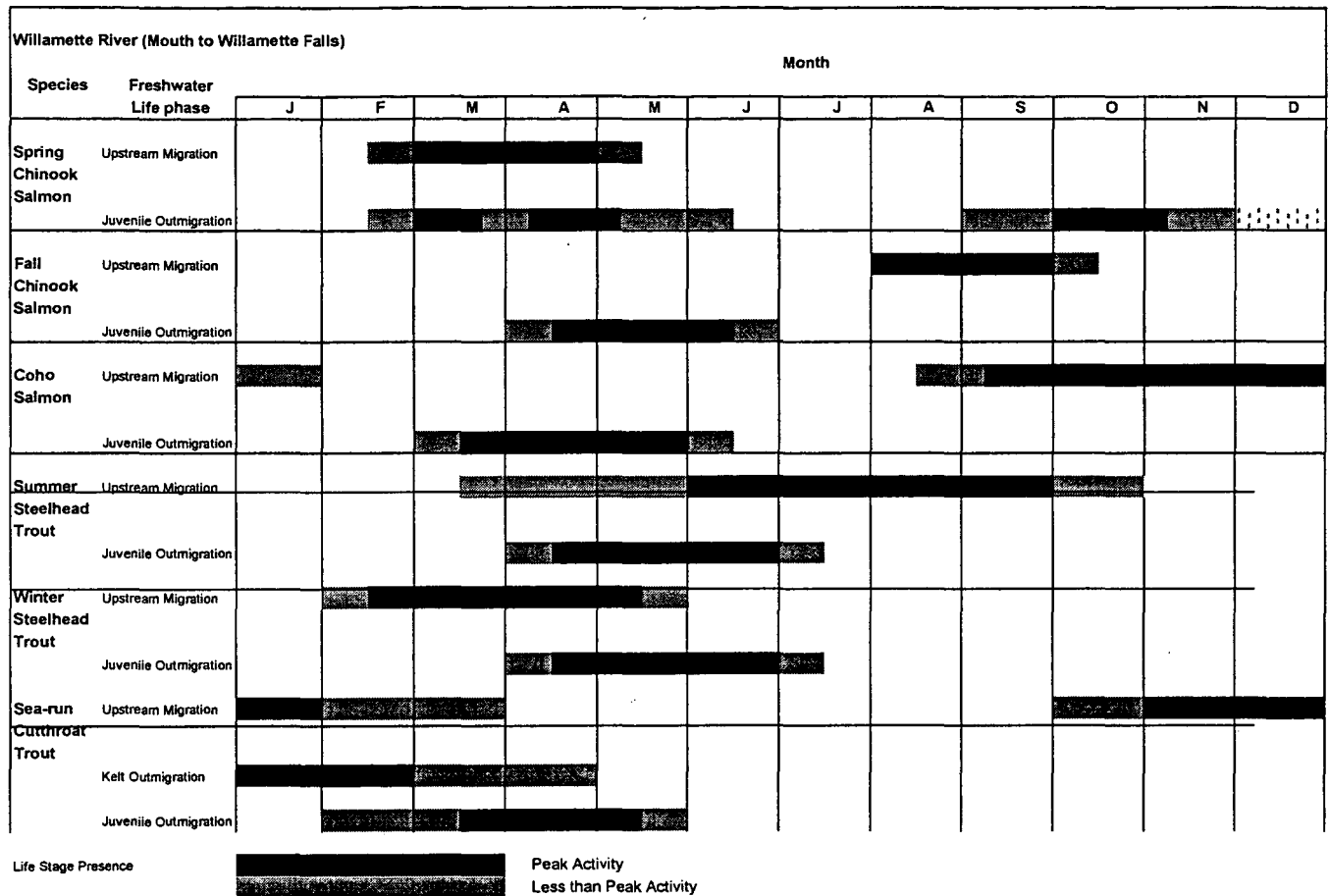


Figure 2: Anadromous Species Use and Timing in the Willamette River near Portland, Oregon

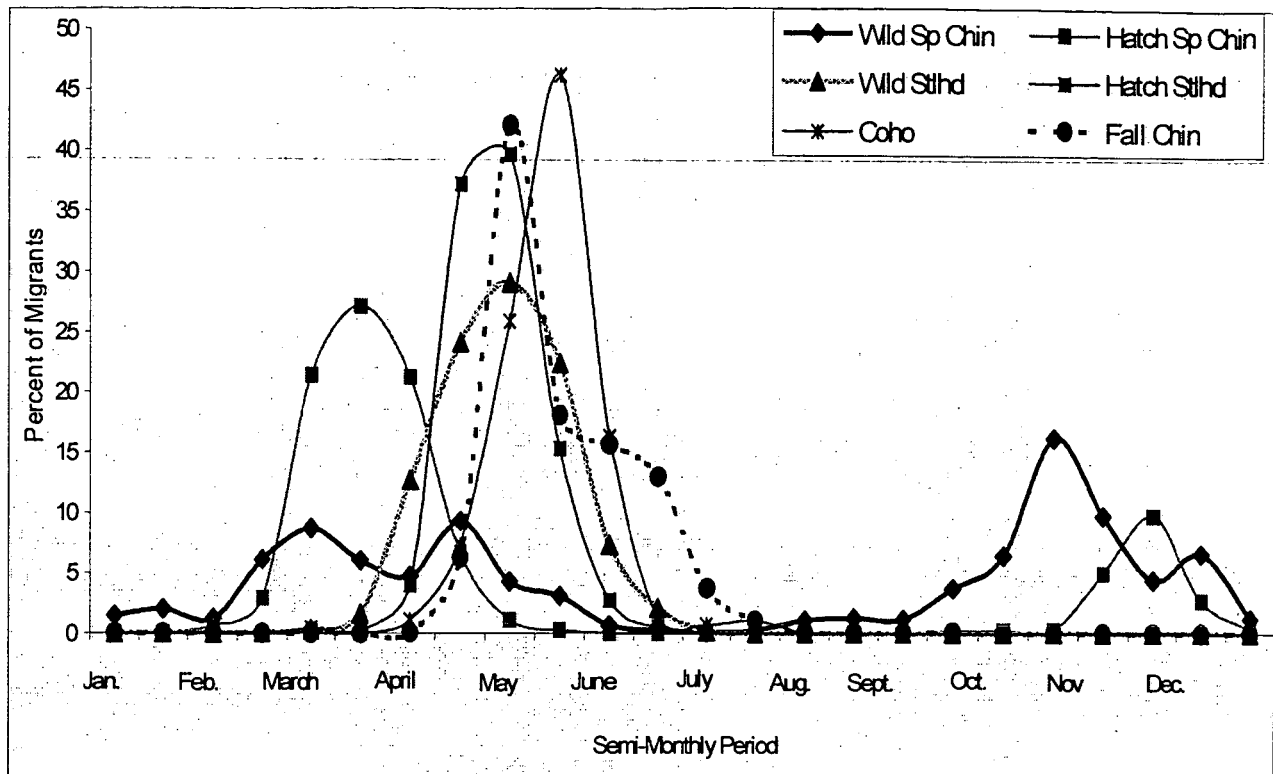


Figure 3: Juvenile Salmonid Migration Timing at Sullivan Dam (Willamette Falls)

3.5 Mixing Zones

OAR 340-041-0053 provides that the Department may suspend all or part of the water quality standards in a designated portion of the receiving water to serve as a zone of dilution for wastes and receiving waters to mix thoroughly. Water quality standards for all parameters must be met at the edge of the defined mixing zone.

The mixing zone from Outfall 001/002 is defined as that portion of the Willamette River within a 30 meter radius from the points of discharge. Outfall 001/002 consists of a 180 foot multi-port diffuser, which is parallel to the shore and hangs off the dock at -12 feet NGVD (National Geodetic Vertical Datum). The outfall consists of eleven 1.2-inch ports approximately 20 feet apart. The ports are aimed outward (toward the main river) at a 20 degree downward angle.

The mixing zones for Outfalls 005 – 008 are defined as that portion of the Willamette River within 10 meters in any direction from the exterior wall of Dry Dock 3 or Dry Dock 1. The discharge from these outfalls is through 3 to 4-inch diameter pipes or hoses which exit the dry dock through “sally ports”.

A mixing zone study to determine the available dilution at the edge of the mixing zone was submitted to DEQ in February 2004. The mixing zone study consisted of modeling using an EPA approved model (UM3 from the Visual Plumes suite). The mixing zone study indicates that the discharge mixes with only a portion of the water column and the bulk of the dilution occurs before the plume surfaces. As a result of the study, the Department has redefined the mixing zone for outfall 001/002 as follows: the allowable mixing zone is that portion of the Willamette River within a 10 meter radius from the points of discharge. The redefined mixing zone is about 1/3 the size of the mixing zone defined in the 1998 NPDES permit. Since the multi-port diffuser

functions as a line source, the flux average dilution was used at the edge of the mixing zone. The mixing zone study indicates that the flux average dilution at the edge of the mixing zone for outfall 001/002 is 141.

Along with comments on the draft NPDES permit, Cascade General submitted a revised version of the mixing zone study. This revised study suggested that the discharge be pumped to a modified outfall structure that has five ports functioning instead of the existing eleven ports. While these modifications would promote better mixing and result in a smaller mixing zone, they would also increase velocities well above current levels. National Oceanic and Atmospheric Administration (NOAA) Fisheries has commented on other NPDES permits suggesting that effluent velocities above 8 – 10 feet per second could attract fish and should be avoided. Because the modification to the diffuser would result in velocities well above this range, Cascade General must not modify the outfall as proposed in the revised mixing zone report.

For the non-contact cooling water discharge from outfalls 005-008, the mixing zone study indicates that the flux average dilution is 68 when the effluent flow rate is 0.052 m³/day (1.84 mgd); the flux average dilution is 37 when the effluent flow rate is 0.126 m³/day (4.4 mgd) to 0.189 m³/day (6.7 mgd).

3.5.1 Zone of Immediate Dilution

A zone of immediate dilution (ZID) within the mixing zone is being proposed as allowed by OAR 340-041-0053(2)(a)(A). Compliance with acute toxicity standards must be met at the edge of the ZID. The ZID is defined as an area within a 3-meter radius of the diffuser. One of the methods specified in EPA's *Technical Support Document for Water Quality Based Effluent Limits* for establishing a ZID is exposure to organisms drifting through the plume. EPA guidance suggests that the travel time through the ZID (i.e. the acute mixing zone) be less than 15 minutes if a 1-hour average exposure is not to exceed the acute criterion. The modeling indicates that the travel time through a 3-meter ZID would be less than a minute, which is well below the travel time suggested in EPA guidance. Thus, the 3-meter ZID meets EPA's suggested methodology for establishing a ZID based on drifting organism exposure. Based on the UM3 model output, the worst case dilution at the edge of the ZID is estimated to be 22. Note that the centerline dilution rather than flux average dilution was used at the ZID.

Because the primary pollutant of concern is temperature at outfalls 005 – 008, a ZID is not specified for these outfalls.

3.6 Antidegradation Review

The Department's antidegradation policy in OAR 340-041-0004 requires that a review of discharges to surface waters be conducted to ensure that existing water quality is not lowered unless there are no reasonable alternatives available and the lowering of water quality is necessary for economic and social benefit.

The NPDES permit for Cascade General's discharge is a permit renewal with no increase in discharge load. Permit renewals with no increase in discharge load are not considered to lower water quality from existing water quality. Thus, the Department finds that the discharge is not subject to an in-depth antidegradation review. (*Antidegradation Policy Implementation Internal Management Directive for NPDES Permits and Section 401 Water Quality Certifications, ODEQ March 2001*).

4.0 Existing Permit Limits

The 1996 NPDES permit includes the following effluent limits for outfall 001, 002 and the non-contact cooling water discharges through outfalls 003-008. As noted above, outfalls 003 and 004 no longer exist with the removal of dry dock 4.

TABLE 4: EXISTING EFFLUENT LIMITS AT OUTFALL 001

Parameter	Monthly Average Limit	Daily Maximum Limit
Flow	--	2650 L/minute
TSS	30 mg/L	50 mg/L
Oil & Grease	--	10 mg/L
pH	Within the range 6.0 – 9.0 S.U.	

TABLE 5: EXISTING EFFLUENT LIMITS AT OUTFALL 002

Parameter	Monthly Average Limit	Daily Maximum Limit
TSS	8 mg/L	10 mg/L
Oil & Grease	8 mg/L	10 mg/L
Copper	0.8 mg/L	1.0 mg/L
Lead	0.8 mg/L	1.0 mg/L
Zinc	0.8 mg/L	1.0 mg/L
pH	Within the range 6.0 – 9.0 S.U.	

TABLE 6: EXISTING EFFLUENT LIMITS AT OUTFALLS 005 - 008

Parameter	Limitations	
	Flow Rate	Daily Maximum Limit
Temperature (°C)	0 – 126 L/s	35°C
Temperature (°C)	126 – 189 L/s	30°C
Temperature (°C)	> 189 L/s	25°C

5.0 Technology Based Limits

Development of effluent limitations for a surface water discharge involves first determining applicable technology based limits and then determining water quality based limits. The NPDES permit contains the more stringent of the two limits.

EPA has developed Effluent Limitation Guidelines (ELGs) for many types of industries. The ELGs are typically expressed in terms of mass of a particular pollutant allowed per unit of production or unit of flow. ELGs are also expressed as concentration in which case the production is not relevant. If ELGs are not published for a particular industry, DEQ follows federal guidelines and develops equivalent technology based limits using best professional judgment.

For existing point source discharges, ELGs have been developed for three categories: Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT). BPT represents the minimum technology level and applies to all existing point sources discharges for which ELGs have been published. BCT replaces BPT for conventional pollutants, and BAT replaces BPT for non-conventional and toxic pollutants. BPT limitations must be met upon publication of the ELGs. EPA allows additional time for facilities to comply with BCT and BAT limitations.

Supplemental information submitted by Cascade General states that technology based standards for the Cascade General facility are contained in 40 CFR 442 – Transportation Equipment Cleaning Point Source Category. There were no technology based limits included in the 1998 NPDES permit. The Transportation Equipment Cleaning ELGs were published by EPA in 2000 after the Department issued existing NPDES permit for the facility.

Subpart C applies to “tank barges and ocean/sea tankers transporting chemical and petroleum cargos”. BPT limitations have been established for this category. BCT and BAT limits are the same as the BPT limits. The BPT limits are given in the table below:

TABLE 7: TECHNOLOGY BASED LIMITS

Parameter	Monthly Average Limit (mg/L)	Daily Maximum Limit (mg/L)
BOD – 5 day	22	61
TSS	26	58
Oil & Grease	16	36
Cadmium	N/A	0.020
Chromium	N/A	0.42
Copper	N/A	0.10
Lead	N/A	0.14
Mercury	N/A	0.0013
Nickel	N/A	0.58
Zinc	N/A	8.3
pH	6 – 9 S. U.	

These ELGs apply to process wastewater from Transportation Equipment Cleaning (TEC) facilities. TEC process wastewater is defined as follows:

“all wastewater associated with cleaning the interiors of tanks including: tank cars; rail tank cars; intermodal tank containers; tank barges; and ocean/sea tankers used to transport commodities or cargos that come into direct contact with the interior of the tank or container. At those facilities that clean tank interiors, TEC process wastewater also includes wastewater generated during washing vehicle exteriors, equipment and floor washings, TEC contaminated storm water, wastewater prerinse cleaning solutions, chemical cleaning solutions, and final rinse solutions. TEC process wastewater is defined to include only wastewater generated from a TEC subcategory. Therefore, TEC process wastewater does not include wastewater generated from cleaning hopper cars, or from food grade facilities discharging to a POTW. Wastewater generated from

cleaning tank interiors for the purposes of maintenance and repair on the tank is not considered TEC process wastewater. Facilities that clean interiors solely for the purposes of repair and maintenance are not regulated under this subpart

As noted above, TEC process wastewater excludes facilities that clean interiors solely for the purposes of repair and maintenance. Since the activities conducted by Cascade General are primarily repair and maintenance, EPA's effluent limitation guidelines do not apply to the discharge from the facility. While the effluent limitation guidelines do not apply to Cascade General, it is expected that the characteristics of the wastewater discharged from the Cascade General facility would be similar to those considered in the TEC effluent limitation guidelines. Therefore, the Department will *consider* the EPA effluent limitation guidelines in determining pollutants to be regulated and applicable effluent limits.

6.0 Water Quality Analysis

This section determines pollutants of concern and evaluates each parameter to determine whether the concentration of the pollutant in the discharge represents a "reasonable potential to exceed" water quality standards. If the discharge concentration of a particular pollutant has a reasonable potential to exceed water quality standards, then water quality based effluent limits are established for that pollutant. To determine whether the discharge has a reasonable potential to exceed water quality standards for these pollutants, a spreadsheet that simulates the approach in EPA's *Technical Support Document for Water Quality Based Toxics* was used. Maximum effluent concentrations, water quality criteria, and mixing zone data are used to determine whether the discharge has a reasonable potential to exceed water quality standards.

6.1 Pollutants of Concern

The primary pollutants of concern at each outfall were determined using EPA's effluent limitation guidelines for the TEC industry, effluent data from discharge monitoring reports, 303(d) parameters and monitoring conducted for the NPDES permit application.

Outfall 001

At outfall 001, the pollutants of concern are: TSS, Oil & Grease, temperature, cadmium, chromium, copper, lead, mercury, nickel, zinc, and pH. Effluent data regarding manganese was not provided with the NPDES permit renewal application. While there is no aquatic life standard for manganese, there are human health standards. The Department will require Cascade General to conduct monitoring to characterize manganese levels in the discharge. Based on this characterization, the Department will determine whether effluent limits are necessary. Analysis for toxic organic and many metal pollutants were not provided. The Department will include a provision in the NPDES permit requiring Cascade General to conduct a priority pollutant scan, which would include metals and toxic organic pollutants. The Department will review this information to determine whether there are other pollutants of concern.

Outfall 002

At outfall 002, the pollutants of concern are: TSS, Oil & Grease, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, tri-butyl/di-butyl tin, zinc, and pH. Organotins (di-butyl and tri-butyl tin) used as anti-fouling agents in bottom paints are also of concern. There are no water quality criteria for di-butyl tin. For tri-butyl tin, the Department is proposing to adopt EPA's recommended water quality standard of 0.46 µg/L (acute) and 0.063 µg/L (chronic). The Department will analyze tri-butyl tin based on the proposed water quality standard. Analytical results for volatile, semi-volatile, and base-neutral organic compounds were below detection limits. Thus, organic pollutants are not included as parameters of concern. Effluent testing at Outfall 002 indicated that polycyclic aromatic hydrocarbons (PAHs) and pesticides are not

expected to be presented in the discharge. Therefore, these pollutant categories were not included in the pollutants of concern even though they are of concern in the lower Willamette River.

The analytical results also showed that carbon disulfide was present at elevated levels (11.3 mg/L). An investigation by Cascade General concluded that the carbon disulfide resulted from a treatment chemical (sodium dimethyldithiocarbamate), which hydrolyzes with the hydrochloric acid that used for sample preservation. Thus, carbon disulfide appears to have been detected primarily as a result of treatment chemical hydrolyzing with the acid used for sample preservation. The Department will require additional testing to determine whether carbon disulfide is a pollutant of concern in the discharge.

Outfalls 005 - 008

For the non-contact cooling water discharge from outfalls 005 – 008, the primary pollutant of concern is temperature. Effluent data at these outfalls also indicates elevated levels of BOD in the non-contact cooling water discharge. The elevated BOD levels may be the result of a cross-connection of the sanitary and cooling water systems. The permit requires that Cascade General conduct effluent testing for e.coli bacteria for each vessel to determine whether there are cross-connections of the sanitary and cooling water systems.

The NPDES permit also requires that the sanitary wastewaters (black water and gray water) from vessels on dry dock or at berth be discharged to the City of Portland sanitary sewer system. A temporary holding tank may be used if connection to the sanitary sewer is not possible. The contents of the tank must be hauled on a periodic basis to a sewage treatment plant or to an authorized discharge point with the sanitary sewer collection system.

6.1.1 Total Suspended Solids

For TSS, there are no water quality standards. The effluent limits from the 1996 NPDES permit, which are more stringent than the technology based effluent limits, will be applied at outfall 001/002.

6.1.2 Oil & Grease

The Oregon Administrative Rules do not specify a numeric standard for oil & grease. However, the rules do include a prohibition against objectionable discoloration, scum, oily sleek or floating solids, or coating of aquatic life with oil films. To prevent oily sleek, the Department is proposing to include a 10 mg/L daily maximum effluent limit. This is the same as the limit in the 1996 NPDES permit.

6.1.3 pH

As noted in *Section 3.1, Applicable Water Quality Standards*, the water quality standard for pH for the Willamette River is 6.5 – 8.5. The pH limit in the 1996 NPDES permit was 6.0 – 9.0 at outfall 001/002. With the dilution available within the mixing zone, the discharge from the Cascade General facility will be able to meet the water quality standard for pH at the edge of the mixing zone. Thus, a pH of 6.0 – 9.0 is proposed for the discharge from outfall 001/002.

6.1.4 Temperature

This segment of the Willamette River where Cascade General discharges serves as a migration corridor for salmonids. OAR 340-041-0028(4)(d) states that the 7-day average maximum temperature of a stream identified as a migration corridor may not exceed 20 °C (68 °F). For streams that do not meet water quality standards, OAR 340-041-0028(12) states the following:

“Prior to completion of a temperature TMDL or other cumulative effects analysis, no single NPDES point source that discharges into temperature water quality limited water may cause the temperature of the water body to increase more than 0.3 degrees Celsius (0.5 degrees Fahrenheit) above the applicable criteria after mixing with either twenty-five (25) percent of the stream flow or the temperature mixing zone, whichever is more restrictive.”

Since a temperature TMDL has not been completed for the Willamette River, the above provision from OAR 340-041-0028(12) applies. A mass balance analysis is conducted to determine whether the discharge would cause a temperature increase greater than 0.3 °C. The calculation is as follows:

$$T_e = [(T_{mz} * Q_{mz}) - (Q_s * T_s)] / Q_e$$

Where:

T_e is the temperature in the effluent;

T_{mz} is the temperature at the edge of the mixing zone (20.3 °C);

Q_{mz} is the dilution at the edge of the mixing zone (141);

Q_s is the portion of the Willamette River available for mixing (140);

T_s is the water quality standard for the Willamette River (20 °C); and

Q_e is the effluent dilution factor when compared to the stream (1).

The mass balance analysis based on the available dilution within the mixing zone indicates that the allowable discharge temperature for the Cascade General facility would be greater than 60 °C. The Temperature Management Plan submitted by Cascade General states that the maximum effluent temperature at outfall 001/002 is 28 °C. Thus, the discharge is not expected to increase temperature at the edge of the mixing zone by more than 0.3 °C.

For outfalls 005-008, the dilution predicted by the mixing zone study is 68 when the effluent flow rate is 0.052 m³/day (1.84 mgd); the flux average dilution is 37 when the effluent flow rate is 0.126 m³/day (4.4 mgd) to 0.189 m³/day (6.7 mgd). Using the same formula above and substituting the available dilution for outfalls 005 – 008, yields an allowable temperature of 40.4 °C for flow rates less than 0.052 m³/day (1.84 mgd). For the higher flow rate conditions, the allowable temperature would be 31.1 °C. The Department will include excess heat load limits at outfalls 005 – 008 based on the more stringent of the two flow conditions described above. The term “excess thermal load” is used by the Department to describe the thermal load based on the temperature difference between the effluent and the applicable ambient numeric criterion.

To determine the excess thermal load for the facility, the Department used the maximum allowable temperature for each flow condition. The excess thermal load is calculated using the following equation:

$$ETL = \Delta T * Q * C_p * SW * 0.252$$

Where:

ETL = Excess thermal load (10⁶ Kcal/day)

ΔT = Maximum allowable effluent temperature minus criterion 68°F (20°C) in degrees F

Q = Discharge flow (mgd)

C_p = Specific heat of water (1 Btu/lb °F)

SW = Specific weight in lb/gallon (8.34 lb/gallon)

0.252 = conversion from million BTU/day to Kcals/day

Based upon the formula above, the excess thermal load for the most restrictive flow condition is 184 x 10⁶ Kcal/day. This thermal load is based on an allowable effluent temperature of 31.1 °C

and an effluent flow rate of 0.126 m³/day (4.4 mgd). If Cascade General meets this thermal load, it would be able to meet applicable thermal loads for the other flow conditions as well.

Recent revisions to the Department's water quality standards include temperature thermal plume limitations in OAR 340-041-0053(d). This section of the rules contains criteria to prevent potential adverse impacts that may result from thermal plumes. Note that the temperature thermal plume limitations that the Department is adopting are similar to the recommendations in the April 2003 EPA Region X Temperature guidance. The criteria as they apply to Cascade General are discussed below:

- *OAR 340-041-0053(d)(A)*: Impairment of an active salmonid spawning area where spawning redds are located or likely to be located.
Cascade General discharges: There is no salmonid spawning in this segment of the Willamette River. This segment of the Willamette River serves as a migration corridor for salmonids.
- *OAR 340-041-0053(d)(B)*: Acute impairment or instantaneous lethality is prevented or minimized by limiting potential fish exposure to temperatures of 32 °C or more to less than 2 seconds.
Cascade General discharges: The Temperature Management Plan uses a conservative maximum effluent temperature at outfall 001/002 of 28 °C. Note that actual recorded temperatures did not exceed 21°C. For outfall 005 – 008, the maximum effluent temperature used in the temperature analysis is 25 °C. Note that higher temperatures were recorded at outfalls 003/004 when dry dock 4 was present. With the removal of dry dock 4 and Cascade General's ability to service large ships, the high temperature and flow rates are no longer present. Thus, the discharges are not expected to cause an acute impairment or instantaneous lethality.
- *OAR 340-041-0053(d)(C)*: Thermal shock caused by a sudden increase in water temperature is prevented or minimized by limiting potential fish exposure to temperatures of 25 °C or more to less than 5% of the cross-section of 100% of the 7Q10 flow of the waterbody.
Cascade General discharges: Near-field mixing zone analysis indicates that the outfall 001/002 discharge from the multi-port diffuser achieves rapid mixing within a short distance. During critical flow conditions, a dilution of about 3 is obtained within 1 foot of the outfall. The temperature at this location would be 22.6. Assuming that the plume width where temperatures may be above 25°C is the full length of the diffuser (180 feet) and occupies 3 feet of the water column, the percentage of the cross-sectional area of the river that may exceed 25 °C was calculated. The width of the Willamette River at the discharge location is about 2000 feet and the average water depth of 40 feet. Using these values, a conservative estimate for the percentage of the cross-sectional area that may exceed 25 °C is less than 0.7%. Thus, the cross-sectional area of the Willamette River that may exceed 25 °C is well below 5%. The discharge from outfalls 005 – 008 meets the 25 °C at the end of pipe so temperatures of 25 °C or more in the water column are not a concern.
- *OAR 340-041-0053(d)(D)*: Unless ambient temperature is 21 °C or greater, migration blockage is prevented or minimized by limiting potential fish exposure to temperatures of 21 °C or more to less than 25% of the cross-section of 100% of the 7Q10 flow of the waterbody.

Cascade General discharges: As discussed above, the discharge is not expected to increase temperature at the edge of the mixing zone by more than 0.3 °C. Modeling shows that the expected dilution 3.2 feet (1 meter) downstream of the discharge would reduce temperatures within the mixing zone below 21 °C. Using an estimated plume width of 300 feet and assuming full mix with one-half of the water column above the diffuser, the estimated cross-sectional area that may exceed 21 °C was calculated. Using these values, a conservative estimate for the percentage of the cross-sectional area that may exceed 21 °C is about 2 %. Thus, the cross-sectional area of the Willamette River that may exceed 21 °C is well below 25%. For outfall 005 – 008, assuming that the entire 10 meter mixing zone has the potential to exceed 21 °C (which is not the case since the discharge meets the 0.3 °C increase at the edge of the mixing zone), the resulting cross-sectional area that may exceed 21 °C is less than 0.1%.

Thus, the analysis indicates that the outfall 001/002 and the outfalls 005 – 008 discharges from the Cascade General facility meets the temperature thermal plume limitations in OAR 340-041-0053(d).

6.1.5 Toxic Pollutants

As noted above, the toxic pollutants of concern at outfall 001 are cadmium, chromium, copper, lead, mercury, nickel, and zinc. The toxic pollutants of concern at outfall 002 are cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, tributyl tin and zinc. Effluent data are not available for iron and manganese. Because iron and manganese are included in the 2002 303(d) list of streams that do not meet water quality standards, the Department is also proposing a monitoring requirement for manganese and iron to better quantify the levels of these pollutants in the discharge. If necessary, effluent limits will be established for iron and manganese upon completion of the characterization.

To determine whether the discharge has a reasonable potential to exceed water quality standards for the above-referenced pollutants, a spreadsheet that simulates the approach in EPA's *Technical Support Document for Water Quality Based Toxics* (EPA March 1991) was used. Maximum effluent concentrations, water quality criteria, and mixing zone data were used to determine whether the discharge has a reasonable potential to exceed water quality standards. The analysis uses the mixed hardness of the discharge and the receiving stream at the ZID and the mixing zone for calculating water quality criteria for pollutants that have hardness dependent criteria. Because the discharge from outfall 001 is likely to contain a mixture of fresh water and sea water, the hardness of the discharge from this outfall is expected to be much higher than the hardness of the discharge from outfall 002.

At outfall 001, cadmium, chromium, copper, lead, mercury, nickel, and zinc were analyzed to determine if the levels of these pollutants represent a "reasonable potential to exceed" water quality standards (Attachment A). At outfall 002, cadmium, chromium, copper, lead, mercury, nickel, and zinc were analyzed to determine if the levels of these pollutants represent a "reasonable potential to exceed" water quality standards (Attachment B). Because effluent data is not available for tri-butyl tin, a reasonable potential analysis was not conducted for this pollutant. Effluent limits were developed assuming that tri-butyl tin is a pollutant of concern that requires effluent limits.

For the pollutants that have a reasonable potential to exceed water quality standards, effluent limits were calculated using another spreadsheet that uses the approach in EPA's *Technical Support Document for Water Quality Based Toxics* (EPA March 1991). At outfall 001, copper and zinc are the pollutants that have a reasonable potential to exceed water quality standards. Attachment C calculates the effluent limits for these pollutants. At outfall 002, copper, lead and

zinc are the pollutants that have a reasonable potential to exceed water quality standards. Tributyl tin is also included in this analysis. Attachment D calculates the effluent limits for these pollutants. Note that the effluent limits for copper and zinc at outfalls 001 and 002 are different even though they discharge through the same pipe. This is because the water quality standards for copper and zinc are hardness dependent and the discharge from outfall 001 is expected have a much higher hardness than outfall 002.

6.2 Whole Effluent Toxicity Testing

As part of the NPDES permit application, Cascade General also conducted Whole Effluent Toxicity (WET) testing of the discharge from outfall 002 using three species in accordance with EPA protocols. Green algae, fathead minnow and a water flea were used in the WET test. The effluent concentrations ranged from 100% effluent to 6.25% effluent. The testing showed that there was a significant difference in mortality at all effluent concentrations tested. Preliminary conclusions indicate that the water treatment chemical sodium dimethyldithiocarbamate and the formation of carbon disulfide during sample preservation may be responsible for the observed toxicity.

Cascade General conducted follow-up acute WET testing on two species (water flea & fathead minnow) with both sodium dimethyldithiocarbamate as well as another treatment chemical (VGT 2002). The results once again showed that the effluent with sodium dimethyldithiocarbamate was toxic at all effluent concentrations (1% to 100% effluent) to the water flea. For the fathead minnow, the acute WET test was toxic at 10% effluent and no toxicity was observed at 3% effluent. The acute WET test with the new treatment chemical (VGT 2002) showed toxicity to the water flea at 30% effluent concentration but no toxicity at 10% effluent. For the fathead minnow, the acute WET test was toxic at 10% effluent and no toxicity was observed at 3% effluent.

To address toxicity issues, the Department has taken enforcement action in the form of a Mutual Agreement and Order (MAO). Until such time as Cascade General addresses toxicity issues, ***the MAO prohibits discharge from outfall 002 (dry dock treatment system) to surface waters.*** The MAO requires Cascade General to submit a plan and schedule that must include provisions for conducting WET testing on each batch prior to discharge, until otherwise approved by the Department. The NPDES permit also requires periodic WET testing for any future discharges from the dry dock treatment system.

7.0 Compliance History

A review of Discharge Monitoring Reports (DMRs) since January 2001 indicates that Cascade General has violated effluent limits in its NPDES permit. Specifically, Cascade General has violated effluent limits for TSS and zinc at outfall 002 in September 2001, March 2002, and September 2002. In response to these violations, the Department issued Notices of Noncompliance (NONs) on October 18, 2001, August 6, 2002, and November 13, 2002. The Department also sent a Notice of Assessment of Civil Penalty (Notice) on December 31, 2002. The Notice initially assessed a civil penalty of \$19,600 for the violations; this penalty was subsequently reduced to \$14,000. Cascade General was given an option to conduct a Supplemental Environmental Project (SEP) in lieu of a portion of the civil penalty. Cascade General has agreed to do a SEP to treat storm water collected over the 4.5-acre industrial site. The estimated cost of the SEP is \$60,000. In addition to conducting the SEP, Cascade General will pay a civil penalty of \$2,800.

As noted in Section 6.2, the Department has taken enforcement action in the form of a MAO to address toxicity issues associated with the discharge from the dry dock treatment system (outfall

002). Until such time as Cascade General addresses toxicity issues, the MAO prohibits discharge from outfall 002. The MAO will terminate upon issuance of the NPDES permit renewal. The NPDES permit will continue to prohibit discharge from the dry dock treatment system until such time as Cascade General addresses toxicity issues.

8.0 Discussion of NPDES Permit

8.1 NPDES Permit Outline

The proposed NPDES permit is organized into a cover page and several schedules that are discussed further in this section. The schedules include:

- Schedule A - Waste Discharge Limitations
- Schedule B - Minimum Monitoring and Reporting Requirements
- Schedule C - Compliance Conditions and Schedules
- Schedule D - Special Conditions
- Schedule E - Not Applicable (this schedule is reserved for federal pretreatment requirements for publicly owned treatment works and is not applicable to this permit)
- Schedule F - General Conditions

8.2 Cover Page

The face page of the NPDES permit identifies that Cascade General is permitted to discharge the following wastewaters to the Willamette River at RM 6.5 in accordance with the conditions and limitations of the permit: treated ballast/bilge water and treated tank wash water through outfall 001; treated process wastewater and storm water runoff from the dry docks through outfall 002; and non-contact cooling water through outfalls 005, 006, 007, and 008. The permit will be issued for a period not to exceed five years from the date of issuance.

8.3 Schedule A

For Outfall 001, effluent limits are proposed for flow, TSS, oil & grease, pH, copper and zinc. Effluent limits for flow, TSS, oil & grease, and pH are based on 1998 NPDES permit. Effluent limits for copper and zinc are based on the water quality analysis conducted in Section 6 of the fact sheet.

For Outfall 002, effluent limits are proposed for TSS, oil & grease, pH, copper, lead, tri-butyl tin, and zinc. Effluent limits for TSS, oil & grease, zinc and pH are based on 1998 NPDES permit; effluent limits for copper, lead, and tri-butyl tin are based on the water quality analysis conducted in Section 6 of the fact sheet. For zinc, the calculated water quality based effluent limit (1.9 mg/L) is higher than the effluent limit in the 1996 NPDES permit (1.0 mg/L). The effluent limit was based on the expected performance of the treatment system and Cascade General continues to have this treatment system in place, the Department is proposing to include the zinc limit from the 1996 NPDES permit. The tri-butyl tin limit applies when surface preparation is performed on the underwater hull of vessels containing tri-butyl tin coatings. The permit requires Cascade General to screen bottom paints for organotins for each vessel using coating application records or analytical testing of paint samples from the hull.

Because Cascade General's discharges on a batch basis through outfall 001/002 and historically has discharged only a few times per month, only daily maximum effluent limits are proposed.

As noted above, WET testing conducted by Cascade General indicated toxicity. The Department is including the provisions in the current MAO into the NPDES permit. The permit includes a

prohibition against discharge from the dry dock treatment system until such time as Cascade General addresses toxicity issues. The permit requires that Cascade General submit a plan for addressing toxicity issues. The plan must include provisions for conducting WET testing on each batch prior to discharge, until otherwise approved by the Department.

For Outfall 005 – 008, the primary pollutant of concern is heat. The Department proposing to include an excess heat load limit as calculated in *Section 6.1.4*. Since these outfalls discharge non-contact cooling water from ships in dry dock, there is potential for cross connection. For every new connection that is established, the draft permit requires Cascade General to confirm that only non-contact cooling water is being discharged by conducting testing the discharge for e.coli bacteria from each vessel to determine whether there are cross-connections of the sanitary and cooling water systems. Testing must be conducted within 24 hours of commencement of discharge.

The applicable effluent limits at outfalls 001, 002, and 005 – 008 are given below:

Table 8: Effluent Limits at Outfall 001	
Parameter	Daily Maximum
Flow	1.0 mgd
Total Suspended Solids	50 mg/L
Oil & Grease	10 mg/L
Copper	0.34 mg/L
Zinc	2.6 mg/L
pH	Within the range 6.0 – 9.0 S.U.

Table 9: Effluent Limits at Outfall 002	
Parameter	Daily Maximum
Total Suspended Solids	10 mg/L
Oil & Grease	10 mg/L
Copper	0.23 mg/L
Lead	0.15 mg/L
Tri-butyl tin	0.02 mg/L
Zinc	1.0 mg/L
pH	Within the range 6.0 – 9.0 S.U.

Table 10: Effluent Limits at Outfall 005 - 008	
Parameter	Limitation
Temperature	184×10^6 Kcal/day (daily maximum)

Even though outfalls 001 and 002 discharge through the same pipe, the TSS limitations for these outfalls are different. This is because the TSS limitations for the two waste streams were based on the effluent quality would be achieved through each of the treatment units. For outfall 001, the ballast/bilge water discharge, the treatment consists of settling, oil skimming, heating and further skimming, and an oil-water separation. For outfall 002, the process-wastewater and storm water discharge, the treatment system consists of equalization, grit removal, flocculation, clarification and filtration. The treatment system for outfall 002 is designed to remove solids at higher levels than outfall 001. Thus, TSS limits at outfall 002 are more restrictive than TSS limits at outfall 001.

As discussed in *Section 3.5*, the Department is reducing the size of the mixing zone for Outfall 001/002. The mixing zone for this outfall was previously defined as that portion of the Willamette River within a 30-meter radius from the points of discharge. The mixing zone is now defined as that portion of the Willamette River within a 10-meter radius from the points of discharge. As required by OAR 340-041-0053, the defined mixing zone is small as feasible, does not overlap with other mixing zones, minimizes adverse effects on the indigenous biological community, and does not threaten public health. The Department is also defining a ZID for Outfall 001/002 in accordance with provisions in OAR 340-041-0053. The ZID is defined as that portion of the Willamette River within 3 meters of the discharge point.

For outfalls 005 – 008, the mixing zone is defined as that portion of the Willamette River within 10 meters in any direction from the exterior wall of Dry Dock 3 or Dry Dock 1. Since the primary pollutant of concern is temperature and acute toxicity is not a concern, a ZID is not established for these outfalls.

The 1998 NPDES permit had allowed for supplemental dilution of the treated dry dock storm water and process water to meet water quality standards. The draft NPDES permit does not allow for supplemental dilution and this provision has been removed from NPDES permit.

8.4 Schedule B – Minimum Monitoring and Reporting Requirements

8.4.1 Monitoring Requirements

The parameters to be monitored and the monitoring frequencies for outfalls 001 and 002 are specified in the tables below.

Table 11: Monitoring Requirements for Outfall 001		
Parameter	Minimum Frequency	Sample Type
Flow	Once for each batch	Measure
Copper ¹	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Total Suspended Solids	Once for each batch	Grab
Total Dissolved Solids	Once for each batch	Grab

¹ Total recoverable

Table 12: Monitoring Requirements for Outfall 002		
Parameter	Minimum Frequency	Sample Type
Flow	Once per each batch	Measure
Copper ¹	Once for each batch	Grab
Lead ¹	Once for each batch	Grab
Tri-butyl tin ^{1, 2}	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Suspended Solids	Once for each batch	Grab
Iron ^{1, 3}	Once for each batch	Grab
Manganese ^{1, 3}	Once for each batch	Grab
Whole Effluent Toxicity Testing (outfall 002)	2/year	Grab
Priority Pollutant Scan (outfall 002)	1/year	Grab

¹ Total recoverable

² Sampling for tri-butyl tin is required when surface preparation is performed on the underwater hull of vessels containing tri-butyl tin coatings

³ Sampling is proposed until such time as Cascade General collects 4 samples for these parameters

At outfalls 001/002, the Department is proposing a monitoring frequency of one sample for each batch. Because Cascade General discharges on a batch basis, this is an appropriate frequency for monitoring the discharge. The Department is proposing grab sampling requirements as opposed to composite samples because both outfall 001 and 002 discharge on a batch basis and the collection of a grab sampling would adequately characterize the discharge.

At outfall 001, total dissolved solids (TDS) is a parameter of concern because this outfall could potentially discharge a mixture of seawater and fresh water. Currently, TDS data at outfall 001 is not available. Therefore, the Department is proposing to include a monitoring requirement in the NPDES permit to characterize effluent TDS levels. For iron and manganese, the Department is proposing that Cascade General collect at least 4 samples at outfall 002 to characterize effluent levels of these parameters. The Department will evaluate the sampling results to determine whether effluent limits are necessary of these pollutants.

Once Cascade General addresses toxicity issues associated with the dry dock wastewater and commences discharge, the Department is proposing to include twice per year WET testing requirements at outfall 002. In addition to WET testing at outfall 002, the Department is also proposing to include a requirement for conducting an annual priority pollutant scan at outfall 002. The Department believes that such monitoring is necessary as a periodic check of discharge quality.

At outfalls 005 – 008, the Department is proposing monitoring for temperature and flow. Because the characteristics of the cooling water may be different for each vessel, the permit requires that flow and temperature be measured for each vessel. Using the flow and temperature data, Cascade General can then calculate the excess heat load discharged from these outfalls. Within 24 hours following commencement of a cooling water discharge from a vessel, the permit

requires Cascade General to conduct testing for e.coli bacteria to ensure that there are no cross connections between cooling water and sanitary wastewater systems.

8.4.2 Monitoring Requirements

The proposed NPDES permit requires monitoring reports to be submitted on a monthly basis. Monthly reports must be submitted by the 15th day of the following month.

8.5 Schedule C – Compliance Conditions and Schedules

Within sixty (60) days of permit issuance, Cascade General must submit the results of a priority pollutant scan (organic pollutants and metals) to the Department. If Cascade General is not discharging wastewater through outfall 001 during this period, the results of the priority pollutant scan must be provided within sixty (60) days after commencement of the discharge. The Department will re-open the NPDES permit if the priority pollutant shows that there are additional pollutants of concern that warrant effluent limits.

Within ninety (90) days of permit issuance, Cascade General must update its Environmental Best Management Practices (BMPs) for the Portland Shipyard and confirm that facility is implementing its BMPs. Any additional BMPs must be implemented within 90 days after submittal of the BMP plan.

8.6 Schedule D – Special Conditions

The following Special Conditions are included in Schedule D of the proposed NPDES permit.

- The whole effluent toxicity testing procedures are specified in this portion of the NPDES Permit. This section specifies the organisms to be used in these tests; it also states that dual end-point test may be used in which acute and chronic end points can be determined from a single chronic test. This section also defines acute and chronic toxicity and specifies follow up actions to be taken if a whole effluent toxicity test shows toxicity.
- Schedule D of the NPDES permit includes conditions regarding re-opening of the NPDES permit to include Willamette River TMDL WLAs (if necessary).
- Schedule D of the NPDES permit also includes conditions regarding a contingency plan for spills and unplanned discharges, annual update of the Environmental BMPs, use of temporary and permanent booms, implementation of a pollution prevention program, and for designating an environmental supervisor to carry out the provisions of this permit.
- Schedule D also includes a provision that allows the discharge of storm water from the dry dock directly to the Willamette River if no work is being performed on the dry docks and the dry docks have been cleaned in accordance with the Environmental Best Management Practices (BMPs) for the Portland Shipyard.

8.7 Schedule F – General Conditions

These conditions are standard to all NPDES permits and include language regarding operation and maintenance of facilities, monitoring and record keeping, and reporting requirements.

9.0 Next Steps

9.1 Public Comment Period

The proposed NPDES permit will be made available for public comment. Public notice of the proposed permit will be mailed to parties on the Department's public notice mailing lists (WQ: PN (public notice) State, WQ: Multnomah County, and WQ: All Permits, Portland Harbor mailing list and the Portland Harbor Community Advisory Group).

9.2 Response to Comments

The Department will respond to comments received during the comment period. All those providing comment will receive a copy of the Department's response. Interested parties may also request a copy of the Department's response. Once comments are received and evaluated, the Department will decide whether to issue the permit as proposed or make changes to the permit or deny the permit.

9.3 Modifications to Fact Sheet and Permit Evaluation Report

Depending on the nature of comment and any changes made to the permit as result of comment, this fact sheet and evaluation report may be modified. The Department may also choose to update the fact sheet and evaluation report through memorandum responding to comments on the draft NPDES permit.

10.0 Attachments

Attachment A: Reasonable Potential Analysis – Outfall 001

Attachment B: Reasonable Potential Analysis – Outfall 002

Attachment C: Effluent Limit Calculation – Outfall 001

Attachment D: Effluent Limit Calculation – Outfall 002

Attachment A - Reasonable Potential Analysis for Outfall 001

Facility Name: Cascade General NPDES Permit Renewal

Dilution Values? (Y/N)	Y	calculated
Dilution @ ZID	22	*
Dilution @ MZ	141	*
If no dilution values enter info below		
Facility Effluent Flow	*	MGD
7Q10	*	CFS
1Q10	*	CFS
% dilution at ZID	*	%
% dilution at MZ	*	%
Fresh Water? (Y/N)	y	

Hardness	mg/L CaCO ₃
Effluent	399
Stream	26
Mixed	
ZID	43
MZ	29

(Hardness values should be >25 and <400 mg/L)

Confidence Level	95%
Probability Basis	95%

PARAMETER	# of Samples	Highest Conc. µg/l	Coef. of Variance	Maximum Effluent Conc. µg/l	Background Conc.* µg/l	Maximum Conc. at ZID µg/l	Maximum Conc. at MZ µg/l	WQ CRITERIA		REASONABLE POTENTIAL ?	
								1 Hour (CMC) µg/l	4 Day (CCC) µg/l	ACUTE	CHRONIC
CADMIUM +	3	5.00	0.60	15.00	0.010	0.69	0.12	1.51	0.43	NO	NO
CHROMIUM III + ^	1	9.00	0.60	55.80	0.200	2.73	0.59	869.2	74.3	NO	NO
COPPER +	3	85.60	0.60	256.80	1.090	12.71	2.90	7.99	4.06	YES	NO
LEAD +	1	5.00	0.60	31.00	0.230	1.63	0.45	27.85	0.65	NO	NO
MERCURY	3	0.20	0.60	0.60	0.001	0.03	0.01	2.40	0.012	NO	NO
NICKEL +	1	48.50	0.60	300.70	0.490	14.14	2.62	693.9	54.8	NO	NO
ZINC +	3	1070.00	0.60	3210.00	3.200	148.96	25.94	57.19	36.75	YES	NO

* Background data for metals obtained from sampling conducted by City of Portland - Bureau of Environmental Services at the Morrison Street Background value used is the average from 2000-2004.

Attachment B - Reasonable Potential Analysis for Outfall 002

Facility Name: Cascade General NPDES Permit Renewal

Dilution Values? (Y/N)	Y	calculated
Dilution @ ZID	22	*
Dilution @ MZ	141	*
If no dilution values enter info below		
Facility Effluent Flow	*	MGD
7Q10	*	CFS
1Q10	*	CFS
% dilution at ZID	*	%
% dilution at MZ	*	%
Fresh Water? (Y/N)	Y	

Hardness	mg/L CaCO ₃
Effluent	120
Stream	26
Mixed	
ZID	30
MZ	27

(Hardness values should be >25 and <400 mg/L)

Confidence Level	95%
Probability Basis	95%

PARAMETER	# of Samples	Highest Conc.	Coef. of Variance	Maximum Effluent Conc.	Background Conc.*	Maximum Conc. at ZID	Maximum Conc. at MZ	WQ CRITERIA		REASONABLE POTENTIAL ?	
		µg/l		µg/l	µg/l	µg/l	µg/l	1 Hour (CMC)	4 Day (CCC)	ACUTE	CHRONIC
CADMIUM +	1	1.00	0.60	6.20	0.010	0.29	0.05	1.02	0.40	NO	NO
CHROMIUM III + ^	1	1.20	0.60	7.44	0.200	0.53	0.25	652.6	70.1	NO	NO
COPPER +	20	211.00	0.60	295.40	1.090	14.47	3.18	5.75	3.82	YES	NO
LEAD +	20	606.00	0.60	848.40	0.230	38.78	6.25	17.84	0.59	YES	YES
MERCURY	1	0.20	0.60	1.24	0.001	0.06	0.010	2.40	0.012	NO	NO
NICKEL +	1	48.50	0.60	300.70	0.490	14.14	2.62	516.1	51.5	NO	NO
ZINC +	20	1580.00	0.60	2212.00	3.200	103.60	18.87	42.52	34.59	YES	NO

* Background data for metals obtained from sampling conducted by City of Portland - Bureau of Environmental Services at the Morrison Street Background value used is the average from 2000-2004.

Attachment C - Water Quality Based Effluent Limits at Outfall 001

Facility Name: Cascade General NPDES Permit Renewal - Outfall 001

Dilution Values? (Y/N)	Y	calculated
Dilution @ ZID	22	*
Dilution @ MZ	141	*
Facility Effluent Flow		MGD
If no dilution values enter info below		
7Q10	*	CFS
1Q10	*	CFS
% dilution at ZID	*	%
% dilution at MZ	*	%
Fresh Water? (Y/N)	Y	

Hardness	mg/L CaCO ₃
Effluent #	399
Stream	26
Mixed	calculated
ZID	43
MZ	29

(Hardness values should be > 25 and < 400 mg/L)

probability basis (for WLA multipliers)	95%
--	-----

PARAMETER	WATER QUALITY CRITERIA						APPLICABLE PERMIT LIMITS					
	1 Hour	4 Day	Back-	Allocations		#	Acute	Chronic	Min	CONCENTRATION		
	(CMC)	(CCC)	ground*	Acute	Chronic		LTA	LTA	LTA	100%	100%	
	µg/l	µg/l	µg/l	µg/l	µg/l	CV	µg/l	µg/l	µg/l	Monthly	Daily	
COPPER +	7.99	4.06	1.09	153.00	420.24	0.6	71.7	270.7	71.7	341.0	341.0	
ZINC +	57.19	36.75	3.20	1191.0	4733.5	0.6	557.9	3049.2	557.9	2654.5	2654.5	

NOTES :

All units in ug/L

* Background data for metals obtained from sampling conducted by City of Portland - Bureau of Environmental Services at the Morrison Street Bridge (RM 11.8).

Background value used is the average from 2000-2004.

+ Hardness dependent criteria

† - Proposed Criteria

Attachment D - Water Quality Based Effluent Limits at Outfall 002

Facility Name: Cascade General NPDES Permit Renewal - Outfall 002

Dilution Values? (Y/N)	Y	calculated
Dilution @ ZID	22	*
Dilution @ MZ	141	*
Facility Effluent Flow		MGD
If no dilution values enter info below		
7Q10	*	CFS
1Q10	*	CFS
% dilution at ZID	*	%
% dilution at MZ	*	%
Fresh Water? (Y/N)	Y	

Hardness	mg/L CaCO ₃
Effluent	120
Stream	26
Mixed	calculated
ZID	30
MZ	27

(Hardness values should be >25 and <400 mg/L)

probability basis (for WLA multipliers)	95%
--	-----

WATER QUALITY CRITERIA											APPLICABLE PERMIT LIMITS	
PARAMETER	1 Hour	4 Day	Back-	Allocations			#	Acute	Chronic	Min	CONCENTRATION	
	(CMC)	(CCC)	ground*	Acute	Chronic		Samples	LTA	LTA	LTA	100%	100%
	µg/l	µg/l	µg/l	µg/l	µg/l	CV	/Mo	µg/l	µg/l	µg/l	Monthly	Daily
COPPER +	5.75	3.82	1.09	103.60	386.25	0.6	1	48.5	248.8	48.5	230.9	230.9
LEAD +	17.84	0.59	0.23	387.57	51.19	0.6	1	181.6	33.0	33.0	156.9	156.9
ZINC +	42.52	34.59	3.20	868.2	4428.6	0.6	1	406.7	2852.8	406.7	1935.0	1935.0
Tri-butyl tin † (outfall 002)	0.46	0.063	0.00	10.1	8.9	0.6	1	4.7	5.7	4.7	22.6	22.6

NOTES :

All units in ug/L

* Background data for metals obtained from sampling conducted by City of Portland - Bureau of Environmental Services at the Morrison Street Bridge (RM Background value used is the average from 2000-2004.

+ Hardness dependent criteria

† - Proposed Criteria

Permit Number: 1200-Z
Effective: July 1, 2007
Expiration: June 30, 2012
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GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT
Department of Environmental Quality
811 S.W. Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon
Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

ISSUED TO: 9/25/2007 GEN 12-Z MULTNOMAH/NWR
File No: 70596 ORR200258

VIGOR INDUSTRIAL LLC
PO Box 4367
Portland, OR 97208-4367

Site: VIGOR INDUSTRIAL

SOURCES THAT ARE REQUIRED TO OBTAIN COVERAGE UNDER THIS PERMIT

Pursuant to 40 Code of Federal Regulation (CFR) § 122.26(b)(14)(i - ix, xi) and OAR 340-045-0033(5), facilities identified in *Table 1: Sources Covered* on p. 3 below that may discharge stormwater from a point source to surface waters or to conveyance systems that discharge to surface waters. These facilities must complete the application and registration procedures to obtain coverage under the permit; see *Permit Coverage and Exclusion from Coverage* on p. 5 below.

Note:

1) Facilities may apply for conditional exclusion from the requirement to register for coverage under this permit if there is no exposure of industrial activities and materials to stormwater pursuant to 40 CFR § 122.26(g); see *Permit Coverage and Exclusion from Coverage* on p. 5 below.

2) Sources meeting the description above, but that are excluded from this permit include: (i) Construction activities, asphalt mix batch plants, concrete batch plants and Standard Industrial Classification code 14, *Mining and Quarrying of Nonmetallic Minerals, Except Fuels*. These activities are regulated under separate general permits; and (ii) any source that has obtained a individual NPDES permit for the discharge.



Date: August 23, 2006

Lauri Aunan, Administrator
Water Quality Division

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permit registrant is authorized to construct, install, modify, or operate stormwater treatment or control facilities, and to discharge stormwater to public waters in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:



NWMAR119273

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Permit Coverage and Exclusion From Coverage	5
Schedule A - Stormwater Pollution Control Plan, Additional Requirements, Limitations, and Benchmarks.....	8
Schedule B - Monitoring and Reporting Requirements	15
Schedule C - Compliance Conditions and Schedules	18
Schedule D - Special Conditions	20
Schedule F - General Conditions	22

Unless specifically authorized by this permit, by regulation issued by EPA, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharges to an underground injection control system.

Schedule F contains General Conditions that are included in all general permits issued by DEQ. Should conflicts arise between Schedule F and any other schedule of the permit, the requirements in Schedule F will not apply.

TABLE 1: SOURCES COVERED

Types of Industrial Sources required to obtain coverage under this permit.

Facilities with the following primary Standard Industrial Classification (SIC) codes:

- 10 Metal Mining
- 12 Coal Mining
- 13 Oil and Gas Extraction
- 20 Food and Kindred Products
- 21 Tobacco Products
- 22 Textile Mill Products
- 23 Apparel and Other Finished Products Made From Fabrics and Similar Material
- 24 Lumber and Wood Products, Except Furniture and 2491 Wood Preserving. (Activities with SIC 2411 Logging that are defined in 40 CFR §122.27 as silvicultural point source discharges are covered by this permit.)
- 25 Furniture and Fixtures
- 26 Paper and Allied Products
- 27 Printing, Publishing and Allied Industries
- 28 Chemicals and Allied Products (excluding 2874 Phosphate Fertilizer Manufacturing)
- 29 Petroleum Refining and Related Industries
- 30 Rubber and Miscellaneous Plastics Products
- 31 Leather and Leather Products
- 32 Stone, Clay, Glass, and Concrete Products
- 33 Primary Metal Industries
- 34 Fabricated Metal Products, Except Machinery and Transportation Equipment
- 35 Industrial and Commercial Machinery and Computer Equipment
- 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment
- 37 Transportation Equipment
- 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks
- 39 Miscellaneous Manufacturing Industries
- 4221 Farm Product Warehousing and Storage
- 4222 Refrigerated Warehousing and Storage
- 4225 General Warehousing and Storage
- 5015 Motor Vehicle Parts, Used
- 5093 Scrap and Waste Materials

Facilities with the following primary SIC codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations:

- 40 Railroad Transportation
- 41 Local and Suburban Transit and Interurban Highway Passenger Transportation
- 42 Motor Freight Transportation and Warehousing (excluding 4221 Farm Product Warehousing and Storage, 4222 Refrigerated Warehousing and Storage, and 4225 General Warehousing and Storage)
- 43 United States Postal Service
- 44 Water Transportation
- 45 Transportation by Air
- 5171 Petroleum Bulk Stations and Terminals, except as provided in Note 1 below.

Facilities storing, transferring, formulating, or packaging bulk petroleum products or vegetable oils, except as provided in Note 1 below.

Steam Electric Power Generation including coal handling sites

Landfills, land application sites and open dumps (excluding landfills regulated by 40 CFR §445 that discharge "contaminated stormwater" (as defined by 40 CFR §445.2) to waters of the U.S.)

Hazardous Waste Treatment, Storage and Disposal Facilities [excluding hazardous waste landfills regulated by 40 CFR §445 that discharge "contaminated stormwater" (as defined by 40 CFR §445.2) to waters of the U.S.]

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TABLE 1: SOURCES COVERED

Types of Industrial Sources required to obtain coverage under this permit.

Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR §403.

Note 1:

Permit registration is not required for a facility covered in Table 1 if discharges are only from:

- a) Stormwater that contacts oil-filled electrical equipment in transformer substations that are equipped with properly functioning oil spill prevention measures such as containment areas or oil/water separators.
- b) Stormwater that contacts petroleum product receiving or dispensing areas or product dispensing equipment from which product is dispensed to final users, whether or not the stormwater is treated by an oil/water separator.
- c) Stormwater that collects in a secondary containment area at a petroleum product dispensing site, where the secondary containment area is associated with storage tanks from which product is dispensed only to final users, and the discharge from the containment area is treated by an oil/water separator.
- d) Stormwater that collects in a secondary containment area at a bulk petroleum product storage site, where the total storage capacity at the site does not exceed 150,000 gallons, and the discharge from the containment area is treated by an oil/water separator. A site with multiple containment areas is considered a single site for determining total storage capacity.

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE

1) New Application for Permit Coverage

- a) An owner or operator of a new facility or existing facility that is required to be covered under this permit must:
 - i) *New facility* - Submit a complete application, which includes a department-approved application form; a Stormwater Pollution Control Plan (SWPCP); and applicable permit fees, to the department or agent at least 60 calendar days before the planned activity that requires permit coverage, unless otherwise approved by the department or agent (see Schedule D for description of agent). If an agent is receiving the application materials, submit two copies of the SWPCP.
 - ii) *Existing facility operating without coverage under the permit* - Submit a complete application, which includes a department-approved application form; a SWPCP; and applicable permit fees, to the department or agent immediately. If an agent is receiving the application materials, submit two copies of the SWPCP.
 - iii) *Existing facility operating under permit coverage that intends to change industrial processes* - Submit a complete application, which includes a department-approved application form; a SWPCP; and applicable permit fees, to the department or agent at least 60 calendar days before the planned change, unless otherwise approved by the department or agent. If an agent is receiving the application materials, submit two copies of the SWPCP.
- b) Public Review Period on new application and SWPCP*
 - i) The application form and SWPCP are subject to a 14-calendar day public review period before permit registration is granted by the department.
 - ii) The public review period will not begin if the application form or SWPCP are incomplete.
- c) Registration
 - i) The department or agent will notify the applicant in writing if registration is approved or denied. Permit coverage does not begin until the applicant receives written notice from the department or agent that the registration is approved.
 - ii) If registration is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

2) Renewal Application for Permit Coverage

- a) An owner or operator of a facility registered under the 1200-Z permit that expires on June 30, 2007 must submit a complete renewal application, which includes a department-approved renewal application form; an updated SWPCP, if revisions to the SWPCP are necessary to address changed conditions or meet new permit requirements of this permit; and applicable permit fees, to the department or agent by January 30, 2007 to ensure uninterrupted permit coverage for industrial stormwater discharges. If an updated SWPCP is not submitted, the department will use the existing SWPCP for public notice purposes.
- b) Public Review Period on renewal application and SWPCP*
 - i) The renewal application and SWPCP are subject to a 14-calendar day public review period before permit coverage may be renewed by the department or agent.
 - ii) The public review period will not begin if the renewal application or SWPCP are incomplete.
- c) Registration
 - i) The department or agent will notify the applicant in writing if registration is approved or denied.

- ii) If registration is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

* The public review period described in conditions 1.b and 2.b above do not apply to registration applications and accompanying SWPCPs for new or existing facilities that were subject to public notice and comment requirements prior to July 1, 2007.

3. Name Change or Transfer of Permit Coverage

- a) For a name change or transfer of permit coverage between legal entities with no industrial process changes at the site, the owner or operator must submit a complete copy of the department-approved Name Change or Permit Transfer application form; an updated SWPCP, if revisions are necessary to address changed conditions, and applicable fees to the department or agent within 30 calendar days of the name change or planned transfer. If submittal is made to the agent, two copies of the SWPCP are required.
- b) The department or agent will notify the applicant in writing if the transfer is approved or denied. The department will transfer coverage under the permit after the department approves the application.
- c) For a name change or transfer of permit coverage between legal entities that intend to change industrial processes, the owner or operator must submit a new application for coverage under this permit as required in condition 1.a.iii above.

4) "No Exposure" Conditional Exclusion from Permit Coverage

- a) An owner or operator that applies for a "no exposure" conditional exclusion from coverage under this permit must:
 - i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff, except as provided in the Environmental Protection Agency (EPA) *Guidance Manual for Conditional Exclusion from Stormwater Permitting Based on "No Exposure" of Industrial Activities to Stormwater* (EPA 833-B-00-001, June 2000). Storm resistant shelters with unsealed zinc or copper roofing materials are not eligible for the "no exposure" conditional exclusion.
 - ii) Ensure that contaminated soil or materials from previous operations is not exposed.
 - iii) Complete and sign a certification, on a form approved by the department, that there is no stormwater exposure to industrial materials and activities from the entire facility, except as provided in 40 CFR §122.26(g)(2). The EPA *Guidance Manual* (EPA 833-B-00-001) may be used to determine whether the no exposure criteria are met.
 - iv) Submit the signed certification to the department or agent once every five years. If the department or agent does not comment on the "no exposure" certification within 30 days, the "no exposure" conditional exclusion is deemed approved. The department or agent may notify the applicant in writing or by email of its approval. The owner or operator must keep a copy of the certification on site and any notification of approval on site.
 - v) Allow the department or agent to inspect the facility to determine compliance with the "no exposure" conditions, and allow the department or agent to make any "no exposure" inspection reports available to the public upon request.
 - vi) Submit a copy of the "no exposure" certification to the municipal separate storm sewer system (MS4) operator (i.e., local municipality, district), upon their request, if facility discharges through an MS4; and allow inspection and public reporting by the MS4 operator.
- b) Limitations for obtaining or maintaining the exclusion:
 - i) This exclusion is available on a facility-wide basis only, not for individual outfalls.

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- ii) If industrial materials or activities become exposed to rain, snow, snow melt, or runoff, the ~~conditions for this exclusion no longer apply. In such cases, the discharge becomes subject~~ to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances must apply for and obtain permit coverage before the change of circumstances.
 - iii) The department or agent retains the authority to make a determination that the “no exposure” conditional exclusion no longer applies and require the owner or operator to obtain permit coverage.
5. **Revocation of Permit Coverage** - The department may revoke a permit registrant’s coverage under the permit pursuant to OAR 340-045-033(10).

SCHEDULE A
STORMWATER POLLUTION CONTROL PLAN

1. **Preparation and Implementation of Stormwater Pollution Control Plan (SWPCP)**
 - a) The permit registrant must ensure that the SWPCP contains the applicable information described in condition A.3.
 - b) The SWPCP must be prepared by a person knowledgeable in stormwater management and familiar with the facility.
 - c) The name of the person(s) preparing the SWPCP must be included in the plan.
 - d) The SWPCP must be signed and certified in accordance with 40 CFR §122.22.
 - e) The SWPCP must be implemented according to conditions A.3.c and Schedule C. Failure to implement any portion of the SWPCP constitutes a violation of the permit.
 - f) The SWPCP must be kept current and updated as necessary to reflect any changes in facility operation.
 - g) A copy of the SWPCP must be kept at the facility and made available upon request to government agencies responsible for stormwater management in the permit registrant's area.
2. **SWPCP Revisions and Actions Plans**
 - a) After the permit registration is approved, if the permit registrant proposes to revise its SWPCP or the department or agent require revisions to the SWPCP, the permit registrant must clearly describe these revisions in an Action Plan.
 - b) The Action Plan is considered an addendum to the SWPCP and must be prepared in compliance with condition A.1 above.
 - c) Within 30 calendar days of making SWPCP revisions, permit registrant must submit an Action Plan to the department or agent for approval. If the department or agent does not comment within 10 business days of receiving the Action Plan, it is deemed approved. Failure to implement any portion of the Action Plan constitutes a violation of the permit.
3. **Required SWPCP Elements**
 - a) **Title Page** - The title page of the SWPCP must contain the following information:
 - i) Name of the site.
 - ii) Name of the site operator or owner.
 - iii) Site or file number as indicated on the permit.
 - iv) Contact person's name and telephone number.
 - v) Physical address, including county, and mailing address if different.
 - b) **Site Description** - The SWPCP must contain the following information:
 - i) A description of the industrial activities conducted at the site. Include a description of the significant materials (see condition D.3, Definitions) that are stored, used, treated or disposed of in a manner that allows exposure to stormwater. Also describe the methods of storage, usage, treatment or disposal.
 - ii) A general location map showing the location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features.
 - iii) A site map including the following:
 - (1) drainage patterns;
 - (2) drainage and discharge structures (piping, ditches, etc.);
 - (3) outline of the drainage area for each stormwater outfall;
 - (4) paved areas and buildings within each drainage area;

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- (5) areas used for outdoor manufacturing, treatment, storage, or disposal of significant materials;
 - (6) existing structural control measures for reducing pollutants in stormwater runoff;
 - (7) material loading and access areas;
 - (8) hazardous waste treatment, storage and disposal facilities;
 - (9) location of wells including waste injection wells, seepage pits, drywells, etc., and
 - (10) location of springs, wetlands and other surface waterbodies both on site and adjacent to the site.
- iv) Estimates of the amount of impervious surface area (including paved areas and building roofs) relative to the total area drained by each stormwater outfall.
 - v) For each area of the site where a reasonable potential exists for contributing pollutants to stormwater runoff, identify the potential pollutants that could be present in stormwater discharges.
 - vi) The name(s) of the receiving water(s) for stormwater drainage. If drainage is to a municipal storm sewer system, the name(s) of the ultimate receiving waters and the name of the municipality.
 - vii) Identification of the discharge outfall(s) and the point(s) where stormwater monitoring will occur as required by Schedule B. If multiple discharge outfalls exist but will not all be monitored, include a description of the outfalls and data or analysis supporting that the outfalls are representative as described in condition B.2.b.
- c) **Site Controls** - The permit registrant must develop, implement, and maintain the controls that are appropriate for the site. The purpose of these controls is to eliminate or minimize the exposure of pollutants to stormwater or to remove pollutants from stormwater before it discharges to surface waters. In developing a control strategy, the permit registrant must include the following four (4) types of controls in the SWPCP and describe the specific components of each control:
- i) *Stormwater Best Management Practices* - The permit registrant must employ the following types of best management practices that are appropriate for the site. A schedule for implementation of these practices must be included in the SWPCP if the practice has not already been accomplished. This schedule must be consistent with the requirements for implementing the SWPCP in Schedule C of this permit.
 - (1) Containment - All hazardous substances (see condition D.3, Definitions) must be stored within berms or other secondary containment devices to prevent leaks and spills from contaminating stormwater. If the use of berms or secondary containment devices is not possible, then hazardous substances must be stored in areas that do not drain to the storm sewer system.
 - (2) Oil and Grease - Oil/water separators, booms, skimmers or other methods must be employed to eliminate or minimize oil and grease contamination of stormwater discharges.
 - (3) Waste Chemicals and Material Disposal - Wastes must be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to stormwater. All waste contained in bins or dumpsters where there is a potential for drainage of stormwater through the waste must be covered to prevent exposure of stormwater to these pollutants. Acceptable covers include, but are not limited to, storage of bins or dumpsters under roofed areas and use of lids or temporary covers such as tarps.
 - (4) Erosion and Sediment Control - Erosion control methods such as vegetating exposed areas, graveling or paving must be employed to minimize erosion of soil at the site.

Sediment control methods such as detention facilities, vegetated filter strips, bioswales, or other permanent erosion or sediment controls must be employed to minimize sediment loads in stormwater discharges. For activities that involve land disturbance, the permit registrant must contact the local municipality to determine if there are other applicable requirements.

- (5) Debris Control - Screens, booms, settling ponds, or other methods must be employed to eliminate or minimize debris in stormwater discharges.
 - (6) Stormwater Diversion - Stormwater must be diverted away from fueling, manufacturing, treatment, storage, and disposal areas to prevent exposure of uncontaminated stormwater to potential pollutants.
 - (7) Covering Activities - Fixed fueling, manufacturing, treatment, storage, and disposal areas must be covered to prevent exposure of stormwater to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings and temporary covers such as tarps.
 - (8) Housekeeping - Areas that may contribute pollutants to stormwater must be kept clean. Sweeping, litter pick-up, prompt clean up of spills and leaks, and proper maintenance of vehicles must be employed to eliminate or minimize exposure of stormwater to pollutants.
- ii) *Spill Prevention and Response Procedure* - Permit registrant must include in the SWPCP methods to prevent spills along with clean-up and notification procedures. These methods and procedures must be made available to appropriate personnel. The required clean-up material must be on-site or readily available and the location of materials must either be shown on the site drawings or indicated in the text of the SWPCP. Spills prevention plans required by other regulations may be substituted for this provision providing that stormwater management concerns are adequately addressed.
- iii) *Preventative Maintenance* - Permit registrant must include in the SWPCP a preventative maintenance program to ensure the effective operation of all stormwater best management practices. At a minimum the program must include:
- (1) Monthly inspections of areas where potential spills of significant materials or industrial activities could impact stormwater runoff.
 - (2) Monthly inspections of stormwater control measures, structures, catch basins, and treatment facilities.
 - (3) Cleaning, maintenance or repair of all materials handling and storage areas and all stormwater control measures, structures, catch basins, and treatment facilities as needed upon discovery. Cleaning, maintenance, and repair of such systems must be performed in such a manner as to prevent the discharge of pollution.
- iv) *Employee Education* - Permit registrant must develop and maintain an employee orientation and education program to inform personnel of the components and goals of the SWPCP. The program must also address spill response procedures and the necessity of good housekeeping practices. A schedule for employee education must be included in the SWPCP. The education and training must occur within 30 calendar days of hiring an employee who works in areas where stormwater is exposed to industrial activities or conducts duties related to the implementation of the SWPCP, and annually thereafter.

- d) **Record Keeping and Internal Reporting Procedures** - Permit registrant must record and maintain at the facility the following information, which does not need to be submitted to the department, agent or other government agencies, unless it is requested.
- i) Inspection, maintenance, repair and education activities as required by the SWPCP.
 - ii) Spills or leaks of significant materials (See condition D.3, Definitions) that impacted or had the potential to impact stormwater or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

ADDITIONAL REQUIREMENTS

4. Non-Stormwater Discharges

- a) The following non-stormwater discharges are authorized by this permit:
 - i) Discharges from fire-fighting activities.
 - ii) Fire hydrant flushings.
 - iii) Potable water, including water line flushings.
 - iv) Uncontaminated air conditioning condensate.
 - v) Irrigation drainage.
 - vi) Landscape watering, provided that all pesticides, herbicides, and fertilizer have been applied in accordance with manufacturer's instructions.
 - vii) Pavement wash waters where no detergents or hot water are used, no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed), and surfaces are swept before washing.
 - viii) Routine external building washdown that does not use detergents or hot water.
 - ix) Uncontaminated ground water or spring water.
 - x) Foundation or footing drains where flows are not contaminated with process materials.
 - xi) Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).
- b) Piping and drainage systems for interior floor drains and process wastewater discharge points must be separated from the storm drainage system to prevent inadvertent discharge of pollutants to waters of the state. Discharge from floor drains to the stormwater drainage system is a violation of this permit.
- c) Any other wastewater discharge or disposal, including stormwater mixed with wastewater, must be permitted in a separate permit, unless the wastewater is reused or recycled without discharge or disposal, or discharged to the sanitary sewer with approval from the local sanitary authority.

5. Water Quality Standards

- a) The permit registrant must not cause a violation of instream water quality standards as established in OAR 340-041.
- b) If the permit registrant develops, implements, and revises its SWPCP in compliance with Schedule A of this permit, the department presumes that the discharges authorized by this permit will comply with instream water quality standards unless the department obtains evidence to the contrary. Coincident samples of the discharge and at upstream and downstream locations in the receiving waterbody must be collected to establish a violation of an instream water quality standard is caused by the discharge.
- c) In instances where the department determines that the permit registrant's stormwater discharges are not complying with instream water quality standards, the department may take

enforcement action for violations of the permit and will require the permit registrant to do one or more of the following:

- i) Develop and implement an Action Plan that describes additional effective BMPs to address the parameters of concern and their locations at the site;
- ii) Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is meeting water quality standards; or
- iii) Curtail stormwater pollutant discharges to the extent possible and submit an individual permit application.

6. **Discharges to Impaired Waterbodies** - If a Total Maximum Daily Load (TMDL) Order (see condition D.3, Definitions) is established and the discharge from a permitted source is assigned a waste load allocation or is required to meet other conditions in the TMDL Order, then an application for an individual or different general permit or other appropriate tools may be required to address the allocation or other requirements.

CODE OF FEDERAL REGULATION STORMWATER DISCHARGE LIMITATIONS

7. **Effluent Limitations** - The permit registrant with the following activities must comply with the applicable limitations:

CFR Industry		Parameter	Limitation	
Category	Subcategory			
Cement manufacturing (40 CFR §411)	Materials storage piles runoff	pH	6.0 - 9.0 SU	
		Total Suspended Solids (TSS)	50 mg/l	
Steam powered electric power generating (40 CFR §423)	Coal pile runoff	TSS	50 mg/l, Daily Maximum	
Paving and roofing materials (tars and asphalt) (40 CFR §443)	Runoff from manufacturing of asphalt paving or roofing emulsion	Oil & Grease	15 mg/l, Daily Maximum	10 mg/l, 30 Day Average
		pH	6.0 - 9.0 SU	

STORMWATER DISCHARGE BENCHMARKS

8. **Benchmarks** - Benchmarks are guideline concentrations, not limitations. They are designed to assist the permit registrant in determining whether their SWPCP is effectively reducing pollutant concentrations in stormwater discharged from the site. For facilities that are subject to federal limitations, benchmarks apply to only those pollutants that are not limited by the federal regulations. See condition A.7 for a list of facilities subject to federal limitations.

The following benchmarks apply to each point source discharge of stormwater associated with industrial activity:

Parameter	Benchmark
Total Copper	0.1 mg/l
Total Lead	0.4 mg/l
Total Zinc	0.6 mg/l
pH*	5.5 – 9.0 SU
Total Suspended Solids*	130 mg/l
Total Oil & Grease*	10 mg/l
E. coli**	406 counts/100 ml
Floating Solids (associated with industrial activities)	No Visible Discharge
Oil & Grease Sheen	No Visible Sheen

* See condition A.7 for list of facilities subject to federal limitations.

**The benchmark for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

9. **Response to a Benchmark Exceedance**

- a) If a stormwater sampling result exceeds any of the benchmark values, the permit registrant must, within 30 calendar days of receiving the sampling results, investigate the cause of the elevated pollutant levels, review the SWPCP and submit an Action Plan for department or agent approval.
- b) The purpose of this review is to determine if:
 - i) The SWPCP is being followed;
 - ii) There are alternative methods for implementing the existing site controls identified in the SWPCP;
 - iii) The benchmark exceedance resulted from background or natural conditions not associated with industrial activities at the site; and
 - iv) Additional effective site controls are needed to address the parameters of concern.
- c) The Action Plan must contain the following, unless condition A.9.d applies:
 - i) The results of the review;
 - ii) The corrective actions the permit registrant will take to address the benchmark exceedance; and
 - iii) An implementation schedule including alternative methods for implementing existing site controls or methods for implementing additional effective site controls, if the site controls have not already been implemented.

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- d) If the permit registrant believes that the benchmark exceedance resulted from natural or background conditions, the Action Plan must propose a sampling plan and methodology for demonstrating that the elevated pollutant levels are due to background or natural conditions.
 - e) If the department or agent does not comment on the Action Plan within 10 business days of its receipt, it is deemed approved. The department or agent's approval of the Action Plan does not constitute compliance with this permit.
 - f) Upon approval, the permit registrant must implement the corrective actions identified in the Action Plan within 60 calendar days, unless otherwise approved by the department or agent.
 - g) If the department or agent affirms the assertion that background or natural conditions contributed to the benchmark exceedance, the permit registrant is not required to make this demonstration again during the term of this permit.
10. **Benchmark Compliance Evaluation**
- a) By June 30th of the 4th year of permit coverage, the permit registrant must evaluate the last four samples collected from each outfall monitored and determine whether the geometric mean of the samples exceeds benchmark(s). This condition is not applicable to a permit registrant with a monitoring waiver as described in condition B.3.
 - b) The permit registrant must report this information in a Discharge Monitoring Report (DMR) and submit the DMR to the department or agent by July 31st of the 4th year of permit coverage as described in condition B.4.a.
 - c) If the geometric mean of the samples exceeds benchmark(s), the department will revoke the permit registrant's coverage under this permit and will require the permit registrant to apply for an individual permit pursuant to OAR 340-045-0033(10) and OAR 340-045-0060.

SCHEDULE B
MONITORING AND REPORTING REQUIREMENTS

1. **Minimum Monitoring Requirements** - All permit registrants must monitor stormwater associated with industrial activity for the following:

GRAB SAMPLES OF STORMWATER*	
Parameter	Frequency**
Total Copper	Four times per Year
Total Lead	Four times per Year
Total Zinc	Four times per Year
pH	Four times per Year
Total Suspended Solids	Four times per Year
Total Oil & Grease	Four times per Year
E. coli***	Four times per Year

* For each outfall monitored, the permit registrant may collect a single grab sample or a series of equal volume grab samples. Samples must be collected from the same storm event.

** The permit registrant is allowed to collect more samples than the minimum frequency requires and must report this data.

***The monitoring for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

VISUAL MONITORING OF STORMWATER	
Parameter	Frequency
Floating Solids (associated with industrial activities)	Once per Month (when discharging)
Oil & Grease Sheen	Once per Month (when discharging)

2. **Grab Sampling and Visual Monitoring Procedures and Locations** - The following requirements apply to monitoring conducted in compliance with condition B.1 above.
- a) **Grab Sampling and Visual Monitoring Methodology** - The monitoring period is from July 1 to June 30th. Grab samples must be representative of the discharge and must be taken at least 14 calendar days apart. Two samples must be collected before December 31, and two samples must be collected after January 1. Time or flow-weighted compositing of samples may be used as an alternative to grab samples, except when monitoring for pH, oil and grease, and E. coli. Visual monitoring must occur at outfall(s) or discharge point(s) identified in the SWPCP as outfall(s) or point(s) where stormwater monitoring will occur.
- b) **Multiple Point Source Discharges** - Each stormwater outfall must be monitored unless:
- The outfall serves an area with no exposure of stormwater to industrial activities; or
 - The outfall has effluent that is substantially similar to the effluent(s) of a monitored outfall and the same BMPs are implemented and maintained at the similar outfalls or drainage areas that lead to the outfalls. Substantially similar effluent(s) are discharges from drainage areas serving comparable activities where the discharges are expected to be similar in composition. The determination of substantial similarity or effluent(s)

must be based on past monitoring or an analysis of industrial activities and site characteristics. The data or analysis supporting that the outfalls are representative must be included in the SWPCP as described in A.3.b.vii.

- iii) If sampling points are modified, permit registrants must notify the department or agent and submit an Action Plan as described in condition A.2.c.
 - c) **Monitoring Location** - All samples must be taken at monitoring points specified in the SWPCP before the stormwater joins or is diluted by any other wastewater, body of water or substance, unless otherwise approved in writing by the department.
 - d) **Sampling Variance**
 - i) Permit registrants may request a sampling variance for missed samples if one of the following criteria is met:
 - a) State or federal authorities declared the year a drought year.
 - b) Demonstrate that rainfall in the area where the permit registrant's facility is located was 20% or more below the three-year average rainfall for that area.
 - c) Demonstrate to the department or agent's satisfaction that samples were unable to be collected due to the infrequency of storm events of sufficient magnitude to produce run-off. Supporting data and analysis must be submitted to the department or agent.
 - ii) Permit registrants must submit to the department or agent a written request for a sampling variance by July 31st of the monitoring year in which the missed sampling occurred.
3. **Monitoring Waiver**
- a) **Visual Observations** - There is no reduction allowed of the required visual observations.
 - b) **Grab Samples** - If at least four consecutive sampling results meet the benchmarks specified in condition A.8, the permit registrant is not required to collect grab samples for the remainder of the permit term. Where the permit registrant demonstrates to the department or agent's satisfaction that a benchmark exceedance resulted from background or natural conditions as described in condition A.9, the department or agent will consider these samples as meeting the benchmark(s) for the purposes of granting a monitoring waiver. There is no reduction in monitoring allowed for facilities subject to CFR limitations as described in condition A.7.
 - i) Results from sampling events cannot be averaged to meet the benchmarks.
 - ii) Monitoring waivers may be allowed for individual parameters.
 - iii) The permit registrant must submit to the department or agent a request to exercise the monitoring waiver that includes the analytical results from the four sampling events. If the department or agent does not comment within 30 calendar days, the monitoring waiver is deemed approved.
 - c) **Revocation of Monitoring Waiver**
 - i) The permit registrant must conduct monitoring as specified in condition B.1 if:
 - a) The department or agent determines that prior monitoring efforts used to establish the monitoring waiver were improper or sampling results were incorrect;
 - b) The department, agent or permit registrant determines that changes to site conditions are likely to affect stormwater discharge characteristics, or
 - c) The department, agent or permit registrant conducts additional monitoring and the sampling results exceed benchmark(s).

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- ii) The department or agent will notify the permit registrant in writing if the monitoring waiver is revoked.
-

4. **Monitoring Reporting Requirements** - The permit registrant must submit the following to the appropriate DEQ regional office or agent:
- a) **Monitoring Data** - The permit registrant must submit by July 31st of each year grab sampling and visual monitoring results for the previous monitoring period (July 1- June 30). The permit registrant must also report the minimum detection levels and analytical methods for the parameters analyzed. Non-detections must be reported as "ND" with the detection limit in mg/L parentheses, e.g., ND (0.005 mg/L). In calculating the geometric mean as described in condition A.10, one-half of the detection limits must be used for non-detections.
 - b) **Report Forms** - The permit registrant must use a department-approved Discharge Monitoring Report (DMR) form for both visual and analytical monitoring results.

**SCHEDULE C
COMPLIANCE CONDITIONS AND SCHEDULES**

1. **An Existing Permit Registrant** that is either renewing or transferring coverage under the permit where there are no changes to operation or industrial type (for a facility operating under an NPDES stormwater discharge permit prior to July 1, 2007):
 - a) Not later than 90 calendar days after renewing or transferring coverage under the permit, permit registrant must implement new site controls identified in the SWPCP to meet new permit requirements.
 - b) Site controls that are developed to meet new permit requirements that require capital improvements (see Schedule D.3, Definitions) must be completed in accordance with the schedule set forth in the SWPCP, but must be completed within two years of renewing or transferring coverage under this permit.
2. **A New Permit Registrant with an Existing Facility** (for a facility operating before July 1, 2007, without an NPDES stormwater discharge permit):
 - a) Not later than 90 calendar days after obtaining permit coverage, the permit registrant must implement site controls identified in the SWPCP to meet the new permit requirements.
 - b) Site controls that are developed to meet new permit requirements that require capital improvements (see Schedule D.3, Definitions) must be completed in accordance with the schedule set forth in the SWPCP, but must be completed within two years of obtaining permit coverage.
3. **A New Permit Registrant with a New Facility** (for a facility beginning operation after July 1, 2007 without an NPDES stormwater discharge permit):
 - a) A permit registrant must begin implementation of the SWPCP before starting operations. Not later than 90 calendar days after obtaining permit coverage, the permit registrant must fully implement site controls identified in the SWPCP.
 - b) Site controls that require capital improvements (see Schedule D.3, Definitions), must be completed in accordance with the schedule set forth in the SWPCP, but must be completed within two years of obtaining permit coverage.
4. **A New Permit Registrant Discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15) or North Santiam River** (For potential or existing dischargers that did not have a permit prior to January 28, 1994, and existing dischargers that have a NPDES stormwater discharge permit but request an increased load limitation.)
 - a) Not later than 180 calendar days after obtaining permit coverage, permit registrant must submit to the department a monitoring and water quality evaluation program. This program must be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-041-0470.

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- b) Within 30 calendar days of department approval, the permit registrant must implement the monitoring and water quality evaluation program.

SCHEDULE D
SPECIAL CONDITIONS

1. **Releases in Excess of Reportable Quantities.** This permit does not relieve the permit registrant of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.
2. **Availability of SWPCP and Monitoring Data.** The Stormwater Pollution Control Plan (SWPCP) or stormwater monitoring data must be made available to government agencies responsible for stormwater management in the permit registrant's area.
3. **Definitions**
 - a) *Action Plan* means an addendum to the SWPCP developed in response to modification to the SWPCP or in response to a benchmark exceedance.
 - b) *Capital Improvements* means the following improvements that require capital expenditures:
 - i) Treatment best management practices including but not limited to settling basins, oil/water separation equipment, catch basins, grassy swales, detention/retention basins, and media filtration devices.
 - ii) Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
 - iii) Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of stormwater to treatment systems.
 - iv) Roofs and appropriate covers for manufacturing areas.
 - c) *Hazardous Substances* as defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.
 - d) *Material Handling Activities* include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.
 - e) *Point Source Discharge* means a discharge from any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, or conduit.
 - f) *Significant Materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges.
 - g) *Site Controls* is analogous to Best Management Practices.
 - h) *Stormwater Associated With Industrial Activity* includes, but is not limited to, stormwater discharges from the following:
 - Industrial plant yards

- Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility
- Material handling sites (Material handling activities include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.)
- Refuse sites
- Sites used for the application or disposal of process waste waters (as defined in 40 CFR § 401)
- Sites used for storage or maintenance of material handling equipment
- Sites used for residual treatment, storage, or disposal; shipping and receiving areas
- Manufacturing buildings
- Storage areas (including tank farms) for raw materials, and intermediate and finished products
- Areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges.

- i) *Stormwater Conveyance* means a sewer, ditch, or swale that is designed to carry stormwater; a stormwater conveyance may also be referred to as a storm drain or storm sewer.
- j) *Total Maximum Daily Load (TMDL)* is the sum of the individual Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources and background. If a receiving water body has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure.

4. **Local Public Agencies Acting as the Department's Agent**

The department authorizes local public agencies to act as its agent in implementing this permit if they entered into a Memorandum of Agreement (MOA). The agent may be authorized to conduct the following activities, including but not limited to: application review and approval, inspections, monitoring data review, stormwater and wastewater monitoring, SWPCP review, and verification and approval of no-exposure certifications. Where the department has entered into such an agreement, the department or its agent must notify the permit registrant of where to submit no-exposure certifications, and other notifications or correspondence associated with this permit. Annual discharge monitoring reports, including analytical monitoring data and visual monitoring results, SWPCPs and Actions Plans must be submitted to both the department and the agent.

SCHEDULE F
NPDES GENERAL CONDITIONS – INDUSTRIAL FACILITIES

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permit registrant must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and 40 CFR 122.41(a) and is grounds for enforcement action; for permit termination, revocation, reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

ORS 468.140 allows the department to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit. Additionally, 40 CFR 122.41, modified by 40 CFR 19.4, provides that any person who violates any permit condition, term, or requirement may be subject to a federal civil penalty not to exceed \$32,500 per day of each violation.

Under ORS 468.943 and 40 CFR 122.41, modified by 40 CFR 19.4, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$32,500 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison. Additionally, under 40 CFR §122.41(a) any person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a federal civil penalty not to exceed \$100,000, and up to 6 years in prison.

3. Duty to Mitigate

The permit registrant must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permit registrant must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

4. Duty to Reapply

If the permit registrant wishes to continue an activity regulated by this permit after the expiration date of this permit, the permit registrant must apply to have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- d. The permit registrant is identified as a Designated Management Agency or allocated a wasteload under a Total Maximum Daily Load (TMDL);
- e. New information or regulations;
- f. Modification of compliance schedules;
- g. Requirements of permit re-opener conditions;
- h. Correction of technical mistakes made in determining permit conditions;
- i. Determination that the permitted activity endangers human health or the environment or
- j. Other causes as specified in 40 CFR §§122.62, 122.64, and 124.5.

The filing of a request by the permit registrant for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permit registrant must comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permit registrant must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permit registrant to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permit registrant only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permit registrant must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permit registrant in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

(1) Bypass is prohibited unless:

- (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
- (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
- (c) The permit registrant submitted notices and requests as required under General Condition B.3.c.

(2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

- (1) Anticipated bypass. If the permit registrant knows in advance of the need for a bypass, it must submit prior written notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permit registrant must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permit registrant. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permit registrant who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permit registrant can identify the causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permit registrant submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
 - (4) The permit registrant complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding the permit registrant seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter must be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

- (1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- (3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

- (1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and

(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

- c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.
- d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permit registrant becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permit registrant must take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permit registrant

If the permit registrant monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data

submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permit registrant's sewage sludge use and disposal activities, which must be retained for a period of at least five years (or longer as required by 40 CFR §503), the permit registrant must retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permit registrant must allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permit registrant's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permit registrant must comply with Oregon Administrative Rules (OAR) 340, Division 052, "Review of Plans and Specifications". Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers must be commenced until the plans and specifications are submitted to and approved by the Department. The permit registrant must give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permit registrant must give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permit registrant provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit must be transferred to a third party without prior written approval from the Director. The permit registrant must notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permit registrant must report any noncompliance which may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permit registrant becomes aware of the circumstances. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permit registrant becomes aware of the circumstances. If the permit registrant is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following must be included as information which must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
- b. Any upset which exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permit registrant must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permit registrant must furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permit registrant must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permit registrant becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR §122.22.

9. Falsification of Reports

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison.

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SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR §125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

Permit No. 101393
File Number: 70596
Expiration Date: 12/31/2014
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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT**

Oregon Department of Environmental Quality
Northwest Region Office
2020 SW 4th Avenue, Suite 400, Portland, OR 97201
Telephone: (503) 229-5263

Issued pursuant to ORS 468B.050 and the Federal Clean Water Act

ISSUED TO:

Permittee:

Vigor Industrial, LLC
5555 N. Channel Avenue
Portland, OR 97217

SOURCES COVERED BY THIS PERMIT:

Type of Waste

Treated ballast/bilge water and tank
wash water

Treated Dry Dock and Buildway
Process Water and Stormwater

Non-contact cooling water

Outfall
Number

001

002

005, 006,
007, 008,
009 & 010

Outfall
Location

R.M. 8.2

R.M. 8.2

R.M. 8.1

PLANT TYPE AND LOCATION:


Ship Repair Yard
Swan Island
5555 N. Channel Avenue
Portland, Oregon

RECEIVING STREAM INFORMATION:

Basin: Willamette
Sub-Basin: Lower Willamette
Receiving Stream: Willamette River
LLID: 1227618456580-8.2-D
County: Multnomah

EPA REFERENCE NO : OR 002294-2

This permit is issued in response to Renewal Application No. 972121 received January 21, 2009.
Supplemental information received on March 31, 2009 and October 18, 2010.



Gregory L. Geist, Manager
Water Quality Source Control Section
Northwest Region

6/15/11

Date

8/1/11

Effective Date

Permitted Activities

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

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Schedule A - Waste Discharge Limitations	3-5
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Schedule C - Compliance Conditions and Schedules	Not Applicable
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Schedule E - Industrial Pretreatment	Not Applicable
Schedule F - General Conditions	13-21

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

Schedule A
Waste Discharge Limitations

1. **Outfall 001: Treated Ballast/Bilge Water and Tank Wash Water (upon permit issuance) - No discharge to surface waters**

There shall be no discharge to surface waters from Outfall 001 until the Permittee provides the following to the Department: 1) The results of a dive survey indicating that the diffuser for outfalls 001/002 has eleven operational ports, and 2) Evidence that the Environmental Best Management Practices Plan required under Schedule D.4 has been updated to address treatment system flushing.

2. **Outfall 001: Treated Ballast/Bilge Water and Tank Wash Water**

Parameter	Daily Maximum
Flow	1.0 MGD
Total Suspended Solids	50 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.34 mg/L
Lead ¹	0.079 mg/L
Zinc ¹	2.6 mg/L
pH	Within the range 6.0 – 9.0 S.U.
Excess Thermal Load	17 x 10 ⁸ Kcal/day
Total Arsenic	Operate treatment processes at the highest and best extent practicable treatment ²

¹ Total Recoverable

² The Department has established a quarterly average of 18 µg/L total arsenic as a non-regulatory numeric benchmark to use in assessing whether the applicable treatment technology is providing the highest and best practicable treatment for arsenic in the discharge. An exceedance of this average value shall not in itself constitute a violation of this permit, but the Department will require the facility to submit a report to the Department detailing the conditions that resulted in the elevated value. The Department will use the report, monitoring information and operational records to assist in the determination of whether or not the facility was in compliance with the narrative operational requirements for total arsenic. The permittee must comply with this requirement until it can be determined by the Department that the facility does not have the reasonable potential to exceed the anticipated water quality criteria or the end of the permit term.

3. Outfall 002: Treated Dry Dock and Buildway Process Water and Stormwater (upon permit issuance) - No discharge to surface waters.

There shall be no discharge to surface waters from Outfall 001 until the Permittee provides the following to the Department: 1) The results of a dive survey that the diffuser for outfalls 001/002 has eleven operational ports, 2) A demonstration that the discharge from outfall 002 does not exhibit toxicity, and 3) Evidence that the Environmental Best Management Practices Plan required under Schedule D.4 has been updated to address treatment system flushing.

To demonstrate that the discharge does not exhibit toxicity, the permittee must submit to the Department a plan for addressing toxicity issues. At a minimum, the plan must include modifications to the process and/or treatment facilities as well as provisions for conducting Whole Effluent Toxicity (WET) testing of each batch of treated wastewater from the dry dock treatment system. Upon successful demonstration that the discharge does not exhibit toxicity, the permittee may commence discharge to surface waters in accordance with the requirements of Schedule A.

4. Outfall 002: Treated Dry Dock and Buildway Process Water and Stormwater (upon commencement of discharge to surface waters)

Parameter	Daily Maximum
Total Suspended Solids	10 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.087 mg/L
Lead ¹	0.079 mg/L
Tri-butyl tin ¹	0.02 mg/L
Zinc ¹	1.0 mg/L
pH	Within the range 6.0 – 9.0 S.U.
Excess Thermal Load	14 x 10 ⁶ Kcal/day
Total Arsenic	Operate treatment processes at the highest and best extent practicable treatment ²

¹ Total Recoverable

² The Department has established a quarterly average of 18 µg/L total arsenic as a non-regulatory numeric benchmark to use in assessing whether the applicable treatment technology is providing the highest and best practicable treatment for arsenic in the discharge. An exceedance of this average value shall not in itself constitute a violation of this permit, but the Department will require the facility to submit a report to the Department detailing the conditions that resulted in the elevated value. The Department will use the report, monitoring information and operational records to assist in the determination of whether or not the facility was in compliance with the narrative operational requirements for total arsenic. The permittee must comply with this requirement until it can be determined by the Department that the facility does not have the reasonable potential to exceed the anticipated water quality criteria or the end of the permit term.

5. Outfalls 003 & 004: No Discharge. These discharges were formerly associated with dry dock 4, which is no longer in place.

6. Outfalls 005, 006, 007, 008, 009 & 010: Non-contact cooling water

Parameter	Limitation
Excess Thermal Load (Temperature)	37×10^6 Kcal/day (daily maximum)

7. Mixing Zones

Except as provided for in Oregon Administrative Rule (OAR) 340-045-0080, no wastes may be discharged and no activities may be conducted that violate Water Quality Standards as adopted in OAR 340-041 except in the defined mixing zone:

Outfall 001/002: The allowable mixing zone is that portion of the Willamette River within a 10-meter radius from the points of discharge (i.e. the multi-port outfall diffuser). The Zone of Immediate Dilution (ZID) is that portion of the Willamette River within a 3-meter radius from the outfall diffuser.

Outfall 005, 006, 007, 008, 009 & 010: The allowable mixing zone is that portion of the Willamette River within a 10-meter radius from the point of discharge.

8. Compliance Locations

Outfall 001: This outfall is defined as the discharge from the holding tanks used to hold the treated ballast/bilge water for testing prior to discharge to the Willamette River. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.

Outfall 002: This outfall is defined as the discharge from the holding tanks used to hold treated water from the dry dock treatment system. Sampling must be conducted and compliance will be determined at the point of discharge from the holding tanks.

Outfall 005: This outfall is defined as the discharge from the south sally ports of Dry Dock 3. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the sally ports.

Outfall 006: This outfall is defined as the discharge from the north sally ports of Dry Dock 3. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the sally ports.

Outfall 007: This outfall is defined as the discharge from the south sally ports of Dry Dock 1. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the sally ports.

Outfall 008: This outfall is defined as the discharge from the north sally ports of Dry Dock 1. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the sally ports.

Outfall 009: This outfall is defined as the discharge from the south sally ports of Dry Dock 5. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the sally ports.

Outfall 010: This outfall is defined as the discharge from the north sally ports of Dry Dock 5. Sampling must be conducted and compliance will be determined at the point the non-contact cooling water is discharged from the sally ports.

Schedule B

Minimum Monitoring and Reporting Requirements

1. Monitoring Requirements (See notes 7 and 8)

a) Outfall 001 (Treated Ballast/Bilge Water and Tank Wash Water):

Parameter	Minimum Frequency	Sample Type
Flow	Once for each batch	Measure
Copper ¹	Once for each batch	Grab
Lead ¹	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Total Suspended Solids	Once for each batch	Grab
Total Dissolved Solids	Once for each batch	Grab
Whole Effluent Toxicity Testing ⁴	1/year	Composite
Priority Pollutant Scan ⁵	1/year	Composite

b) Outfall 002 (Treated Dry Dock Process Water and Stormwater):

Parameter	Minimum Frequency	Sample Type
Flow	Once per each batch	Measure
Copper ¹	Once for each batch	Grab
Lead ¹	Once for each batch	Grab
Tri-butyl tin ^{1,2}	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Suspended Solids	Once for each batch	Grab
Iron ^{1,3}	Once for each batch	Grab
Manganese ^{1,3}	Once for each batch	Grab
Whole Effluent Toxicity Testing ⁴	2/year	Composite
Priority Pollutant Scan ⁵	1/year	Composite

c) Outfalls 005, 006, 007, 008, 009, and 010: Non-contact cooling water

Parameter	Minimum Frequency	Sample Type
Flow	Once for each vessel	Measure
Temperature	Once for each vessel	Measure
Excess Thermal Load (Daily Maximum) ⁶	Once for each vessel	Calculate

Schedule B.1 Notes:

1. Total recoverable
2. Sampling for tri-butyl tin is required when surface preparation is performed on the underwater hull of vessels containing tri-butyl tin coatings
3. Sampling is proposed until such time as Vigor collects 4 samples for these parameters
4. Results are to be reported the month following receipt of test results.
5. The permittee must perform chemical analysis of the effluent for the specific toxic pollutants listed in Tables II and III of Appendix D of 40 CFR 122 (including PCBs), inorganic arsenic, iron and manganese in accordance with the sampling frequency specified above. The effluent samples must be composites, except where sampling volatile compounds and cyanide. For these pollutants, at least four discrete samples (not less than 100 mL) collected over the operating day are acceptable. Also, each cyanide aliquot must be collected and composited into a larger container which has been preserved with sodium hydroxide to insure sample integrity.
6. The daily maximum excess thermal load must be calculated using the daily maximum temperature and the total discharge flow for the day. Excess thermal loads must be calculated using the formula below. If the calculation results in a thermal load value less than zero, the results must be recorded as zero.

$$ETL = \Delta T * Q * C_p * SW * 0.252$$

Where:

ETL = Excess thermal load (10⁶ Kcal/day)
 ΔT = effluent temperature (°F) minus criterion (68°F)
 Q = Discharge flow (mgd)
 C_p = Specific heat of water (1 Btu/lb °F)
 SW = Specific weight in lb/gallon (8.34 lb/gallon)
 0.252 = conversion from million BTU/day to Kcals/day

7. The permittee must ensure that all monitoring analysis reports contain both the QL and detection level of the method as defined below:

Detection Level: Same as the "Method Detection Limit" (MDL) derived using 40 CFR 136 Appendix B (40 CFR 136, Appendix B).

Quantitation Limit: Same as the Method Reporting Limit (MRL). It is the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

8. Whenever possible, the permittee should use a test method, as indicated in 40 CFR 136.3 (or an approved alternative under 40 CFR 136.4 or 136.6), with a Quantitation Limit (QL) that is lower than the permitted effluent limit or water quality criteria for priority pollutant scans. A list of the analytic methods approved by the department and the applicable QLs are located in the document *Revised RPA IMD, Appendix B Quantitation Limits Tables* (November 2007) available from DEQ and also located on the web at <http://www.deq.state.or.us/wq/pubs/imds/rpaammend.pdf>. Due to the difficulty of achieving the total arsenic QL of 0.05 ug/l reported in the Revised RPA IMD, the facility is required (when applicable) to use a method with a minimum analytic range of 0.5 ug/l.

2. Reporting Requirements

- a) **Reporting Frequency.** Monitoring results must be reported on approved forms. Reports must be submitted to the Department's Northwest Region – Portland Office by the 15th day following the reporting month.

The permittee must monitor the parameters as specified above at the locations indicated. The laboratory used by the permittee to analyze samples must have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis, the results must be included in the report, but not used in the calculations required by this permit. When possible, the permittee must re-sample in a timely manner for parameters failing QA/QC requirements, analyze samples, and report results.

- b) **Reporting of Non-Detect Sample Results.** For sample results below the detection level, the result shall be reported as "<DL" (e.g. <1.0). For sample results above the detection limit and below the quantitation limit, the results shall be reported as "eDL" (e.g., if the quantitation limit is 5.0, the detection limit is 1.0, and the analytical results give an estimated value of 3.0, then the value shall be reported as "e1.0"). For the purpose of calculating mass loads and averages, the following concentrations shall be used: 1) Where the sample results are above the detection limit and below the quantitation limit, the concentration values used shall be the detection limit, 2) Where the sample results are below the detection limit, the concentration values used shall be zero (0).
- c) **Monitoring Records Prepared in Ink.** All bench sheets, laboratory analysis sheets, and other records to support the data reported on the Discharge Monitoring Report (DMR) must be prepared in ink. Pencil entries or *liquid paper* corrections must be prohibited by appropriate laboratory operating procedures. Changes to any supporting records that may be required to correct the original data must be made by lining through the original data. The date of the change and the initials of the individual making the change must be recorded in ink adjacent to the change.

Schedule D Special Conditions

1. Whole Effluent Toxicity Testing

- a. The permittee shall conduct whole effluent toxicity (WET) tests as specified in Schedule B of this permit.
- b. The facility is required to sample as specified in Schedule B
- c. Acute Toxicity Testing - Organisms and Protocols
 - (1) The permittee shall conduct 48-hour static renewal tests with *Ceriodaphnia dubia* (water flea) and 96-hour static renewal tests with *Pimephales promelas* (fathead minnow).
 - (2) All test methods and procedures shall be in accordance with **Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms**, Fifth Edition, EPA-821-R-02-012, October 2002. Any deviation of the bioassay procedures outlined in this method shall be submitted in writing to the Department for review and approval prior to use.
 - (3) Tests shall be conducted on final effluent sample collected as a composite sample. No treatments to the final effluent (i.e. dechlorination, etc), except those included as part of the methodology, shall be performed by the laboratory unless approved by the Department prior to analysis.
 - (4) Acute tests shall be conducted on a control and the following dilution series, unless otherwise approved by the Department in writing: 3%, 4.5%, 25%, 50%, and 100%. The control water and dilution water used shall be moderately hard water as described in EPA-821-R-02-012, Section 7.
 - (5) An acute WET test shall be considered to show toxicity if there is a statistically significant difference in survival between the control and 4.5 percent effluent.
- d. Chronic Toxicity Testing - Organisms and Protocols
 - (1) The permittee shall conduct tests with: *Ceriodaphnia dubia* (water flea) for reproduction and survival test endpoint, *Pimephales promelas* (fathead minnow) for growth and survival test endpoint, and *Raphidocelis subcapitata* (green alga formerly known as *Selenastrum capricornutum*) for growth test endpoint.
 - (2) All test methods and procedures shall be in accordance with **Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, Fourth Edition, EPA-821-R-02-013, October 2002. Any deviation of the bioassay procedures outlined in this method shall be submitted in writing to the Department for review and approval prior to use.
 - (3) Tests shall be conducted on final effluent samples collected as 24-hour composite samples. No treatments to the final effluent (i.e. dechlorination, etc), except those

included as part of the methodology, shall be performed by the laboratory unless approved by the Department prior to analysis.

- (4) Chronic tests shall be conducted on a control and the following dilution series, unless otherwise approved by the Department in writing: 0.7%, 12.5%, 25%, 50%, and 100%. The control water and dilution water used shall be moderately hard water as described in EPA-821-R-02-013, Section 7.
- (5) A chronic WET test shall be considered to show toxicity if the IC_{25} (25% inhibition concentration) occurs at dilutions equal to or less than the dilution that is known to occur at the edge of the mixing zone, i.e. $IC_{25} \leq 0.7\%$.

e. Dual End-Point Tests

- (1) WET tests may be dual end-point tests in which both acute and chronic end-points can be determined from the results of a single chronic test. The acute end-point shall be based on 48-hours for the *Ceriodaphnia dubia* (water flea) and 96-hours for the *Pimephales promelas* (fathead minnow).
- (2) All test methods and procedures shall be in accordance with **Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, Fourth Edition, EPA-821-R-02-013, October 2002. Any deviation of the bioassay procedures outlined in this method shall be submitted in writing to the Department for review and approval prior to use.
- (3) Tests shall be conducted on final effluent samples collected as described in item d.(3).
- (4) Tests run as dual end-point tests shall be conducted on a control and the following dilution series, unless otherwise approved by the Department in writing: 0.7%, 4.5%, 25%, 50%, and 100%. The control water and dilution water used shall be moderately hard water as described in EPA-821-R-02-013, Section 7.
- (5) Toxicity determinations for dual end-point tests shall correspond to the acute, c.(5), and chronic, d.(5), described above.

f. Additional Sampling Requirements

Not Applicable

g. Evaluation of Causes and Exceedances

- (1) If any test exhibits toxicity, as defined in sections c.(5) or d.(5) of this permit condition, another toxicity test using the same species and Department approved methodology shall be conducted within two weeks of the permittee's receipt of the test results, unless otherwise approved by the Department.
- (2) If two consecutive WET test results indicate acute and/or chronic toxicity, as defined in sections c.(5) or d.(5) of this permit condition, the permittee shall immediately notify the Department of the results. The Department will work with the permittee to determine the appropriate course of action to evaluate and address the toxicity.

h. Quality Assurance / Reporting

- (1) Quality assurance criteria, statistical analyses, and data reporting for the WET tests shall be in accordance with the EPA documents stated in this condition.
- (2) A bioassay laboratory report for each test shall be prepared according to the EPA method documents referenced in this Schedule. This shall include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests, and completed Chain of Custody forms for the samples including time of sample collection and receipt. Reports shall be submitted to the Department within 45 days of test completion.
- (3) The report should include all endpoints measured in the test, i.e. NOEC, LOEC, and IC₂₅.
- (4) The permittee shall make available to the Department, on request, the written standard operating procedures they, or the laboratory performing the WET tests, are using for all toxicity tests required by the Department.

i. Reopener

- (1) The Department may reopen and modify this permit to include new limitations, monitoring requirements, and/or conditions as determined by the Department to be appropriate, and in accordance with procedures outlined in Oregon Administrative Rules, Chapter 340, Division 45, if:
 - a. WET testing data indicate acute and/or chronic toxicity.
 - b. The facility undergoes any process changes.
 - c. Discharge monitoring data indicate a change in the reasonable potential to exhibit toxicity.

2. Spill Prevention and Response Procedures

An adequate contingency plan to prevent spills along with clean-up and notification procedures must be in place at all times. These methods and procedures must be made available to appropriate personnel. The required clean-up material must be on-site or readily available and the location of materials must either be shown on the site drawings or indicated in the text of the plan.

3. Environmental Supervision and Management

The permittee must designate an environmental supervisor to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment, and disposal facilities. This person shall be allowed access to all information relevant to the generation of wastes in the various process areas.

4. Annual Update of Environmental Best Management Practices Plan

By March 1 of each year, the permittee must update its Environmental Best Management Practices (BMPs) Plan for the Cascade General Shipyard to incorporate solutions to problems encountered during the previous calendar year or new practices learned during the previous calendar year.

In its update, Vigor must also ensure that the plan includes BMPs, to be implemented prior to any discharge to surface waters from Outfalls 001 and/or 002, to fully flush the treatment system of any wastewaters not listed as a type of waste on the cover page of this permit. The plan must also include BMPs to clean the dry docks of residual materials generated during dry dock repair periods. The implementation of these BMPs is required under Schedule D.7 prior to the direct discharge of stormwater from the dry docks.

The permittee must ensure that all applicable Environmental BMPs are employed at all times.

5. Containment Booms

The permittee must use floating containment booms around all ships while transferring fuel in the shipyard. Permanent oil containment booms must be installed on the inside of the outermost pier pilings and around all dry dock areas.

6. Pollution Prevention Program

A program of pollution prevention must be maintained with the purpose to: (1) reduce, recycle and reuse water, stock, and chemicals, (2) substitute less toxic chemicals for more toxic chemicals, (3) eliminate the use of certain chemicals, and (4) use best management practices (BMPs) to improve housekeeping and spill response through better training and better operations and maintenance procedures.

7. Discharge of Uncontaminated Stormwater

The permittee is authorized to discharge stormwater from the dry docks directly to the Willamette River if no work is being performed on the dry docks and the dry docks have been cleaned in accordance with the Environmental Best Management Practices (BMPs) for the Cascade General Shipyard.

Schedule F
NPDES General Conditions – Industrial Facilities

SECTION A. STANDARD CONDITIONS

1. **Duty to Comply with Permit**

The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for the Department to terminate, modify and reissue, revoke, or deny renewal of a permit.

2. **Penalties for Water Pollution and Permit Condition Violations**

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions 33 USC § 1365. DEQ enforcement is generally based on provisions of state statutes and EQC rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows the Department to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit. The federal Clean Water Act provides for civil penalties not to exceed \$32,500 and administrative penalties not to exceed \$11,000 per day for each violation of any condition or limitation of this permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to \$25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense. The federal Clean Water Act provides for criminal penalties of not more than \$50,000 per day of violation, or imprisonment of not more than 2 years, or both for second or subsequent negligent violations of this permit.

Under ORS 468.946, a person who knowingly discharges, places, or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state is subject to a Class B felony punishable by a fine not to exceed \$200,000 and up to 10 years in prison. The federal Clean Water Act provides for criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment of not more than 3 years, or both for knowing violations of the permit. In the case of a second or subsequent conviction for knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.

3. **Duty to Mitigate**

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Department may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge
- d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a Total Maximum Daily Load (TMDL)
- e. New information or regulations
- f. Modification of compliance schedules
- g. Requirements of permit reopener conditions
- h. Correction of technical mistakes made in determining permit conditions
- i. Determination that the permitted activity endangers human health or the environment
- j. Other causes as specified in 40 CFR 122.62, 122.64, and 124.5

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 and 307(a) of the federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights and Other Legal Requirements

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees

The permittee must pay the fees required by Oregon Administrative Rules.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Activity Not a Defense

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b. and c. of this section.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited and the Department may take enforcement action against a permittee for bypass unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under General Condition B.3.c.
- (2) The Department may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Department determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

- c. Notice and request for bypass.
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to the Department at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
 - (4) The permittee complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Upset

For purposes of this permit, A Single Operational Upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

6. Public Notification of Effluent Violation

If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (e.g., public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed in accordance with General Condition B.7. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

7. Emergency Response and Public Notification Plan

The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from bypasses or upsets that may endanger public health. At a minimum the plan must include mechanisms to:

- a. Ensure that the permittee is aware (to the greatest extent possible) of such events;
- b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
- c. Ensure immediate notification to the public, health agencies, and other affected entities (including public water systems). The response plan must identify the public health and other officials who will receive immediate notification;
- d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
- e. Provide emergency operations; and
- f. Ensure that DEQ is notified of the public notification steps taken.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit, and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and approval of the Department.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136, or in the case of sludge use and disposal, under 40 CFR part 503, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or, in the case of sludge use and disposal, under 40 CFR part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit shall be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Department at any time.

9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee must allow the Department or EPA upon the presentation of credentials, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

11. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The Permittee may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR 122.21 will not be classified as confidential. 40 CFR 122.7(b).

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee must comply with OAR chapter 340, division 52, "Review of Plans and Specifications" and 40 CFR Section 122.41(l) (1). Except where exempted under OAR chapter 340, division 52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by the Department. The permittee must give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee must give advance notice to the Department of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit may be transferred to a third party without prior written approval from the Department. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 40 CFR Section 122.61. The permittee must notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours from the time the permittee becomes aware of the circumstances, unless a shorter time is specified in the permit. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

The following must be included as information that must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass that exceeds any effluent limitation in this permit;
- b. Any upset that exceeds any effluent limitation in this permit;

- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Department in this permit; and
- d. Any noncompliance that may endanger human health or the environment.

A written submission must also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:

- e. A description of noncompliance and its cause;
- f. The period of noncompliance, including exact dates and times;
- g. The estimated time noncompliance is expected to continue if it has not been corrected;
- h. Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and
- i. Public notification steps taken, pursuant to General Condition B.7.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee must furnish to the Department within a reasonable time any information that the Department may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR Section 122.22.

9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison. Additionally, according to 40 CFR 122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a federal civil penalty not to exceed \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

10. Changes to Discharges of Toxic Pollutant

The permittee must notify the Department as soon as it knows or has reason to believe the following:

- a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Section 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR Section 122.44(f).
- b. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR Section 122.21(g)(7); or
 - (4) The level established by the Department in accordance with 40 CFR Section 122.44(f).

SECTION E. DEFINITIONS

1. *BOD* means five-day biochemical oxygen demand.
2. *CBOD* means five day carbonaceous biochemical oxygen demand.
3. *TSS* means total suspended solids.
4. "*Bacteria*" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and *E. coli* bacteria.
5. *FC* means fecal coliform bacteria.
6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR Section 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR Chapter 340, Division 41.
8. *mg/l* means milligrams per liter.
9. *kg* means kilograms.
10. *m³/d* means cubic meters per day.
11. *MGD* means million gallons per day.
12. *24-hour Composite sample* means a combination of at least six discrete sample aliquots of at least 100 milliliters, collected at periodic intervals from the same location, during the operating hours of the facility over a 24 hour period. Four (rather than six) aliquots should be collected for volatile organics analyses. The composite must be flow or time proportional, whichever is more appropriate. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.
13. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
14. *Quarter* means January through March, April through June, July through September, or October through December.
15. *Month* means calendar month.
16. *Week* means a calendar week of Sunday through Saturday.



State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System
PERMIT EVALUATION AND FACT SHEET
Oregon Department of Environmental Quality
Northwest Region
2020 SW Fourth Ave., Suite 450
Portland, OR 97202
(503) 229-5263

Permittee:	Vigor Industrial, LLC
Existing Permit Information:	File Number: 70596 Permit Number: 101393 EPA Reference Number: OR002294-2 County: Multnomah
Source Contact:	T. Alan Sprott Director of Environmental Services (503) 247-1672
Source Location:	5555 North Channel Avenue Portland, Oregon 97217
LLID	LLID: 1227618456580- 8.2-D
Receiving Stream:	Willamette River
Proposed Action:	Renew Permit Application Number: 972121 Date Received: 1/21/09
Source Category	NPDES Minor – Industrial
Permit Writer:	Rob Burkhardt 503-229-5566
Date Prepared:	6/15/2011

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Attachments

Attachment A – Outfall 001 Aquatic Life Reasonable Potential Analysis Spreadsheet
Attachment B – Outfall 002 Aquatic Life Reasonable Potential Analysis Spreadsheet
Attachment C – Outfall 001 Human Health Reasonable Potential Analysis Spreadsheet
Attachment D – Outfall 002 Human Health Reasonable Potential Analysis Spreadsheet
Attachment E – Outfall 001 Effluent Limitation Spreadsheet
Attachment F – Outfall 002 Effluent Limitation Spreadsheet
Attachment G – Antidegradation Review Sheet
Attachment H – Outfalls 001/002 pH Reasonable Potential Analysis Spreadsheet

1.0 INTRODUCTION

A National Pollutant Discharge Elimination System (NPDES) permit was issued by the Department of Environmental Quality (Department) to Cascade General, Inc. on June 23, 2004 (2004 permit) for discharges of treated wastewater at the Portland Shipyard. Subsequent to the permit's issuance, Cascade General's name was changed to Vigor Industrial, LLC and the permittee's name was changed on the permit. The permit expired on March 31, 2009. The Department received an NPDES permit renewal application from Vigor on January 21, 2009. Since a timely renewal application was submitted to the Department, Vigor has continued to operate under the terms and conditions of the 2004 NPDES permit pending Department action on the renewal application. The Department is now proposing to renew the NPDES permit for Vigor.

This permit evaluation report describes the basis and methodology used in developing the permit. The permit is divided into several sections:

Schedule A – Waste discharge limitations
Schedule B – Minimum monitoring and report requirements
Schedule D- Special Conditions
Schedule F – General conditions
(Schedules C and E are not applicable to this permit.)

Compared to the existing (2004) permit, the proposed permit contains new limitations for temperature, copper, lead and arsenic in Schedule A. In order to ensure adequate characterization of the wastewater being discharged from the facility, Schedule B of the proposed permit includes an increase in the number of pollutant parameters to be monitored. The changes in the proposed permit as compared to the 2004 permit are discussed in more detail in Section 6, *Draft Permit Discussion*.

The Federal Water Pollution Control Act of 1972 and subsequent amendments require a NPDES permit for the discharge of wastewater to surface waters. Furthermore, Oregon Revised Statutes (ORS 468B.050) also require a discharger be granted a permit for the discharge of wastewater to surface waters. This proposed permit action by the Department complies with both federal and state requirements.

2.0 FACILITY DESCRIPTION

2.1 General Description

Vigor owns and operates the Cascade General ship repair yard on Swan Island (Figure 1). Ships are serviced and repaired while tied at berths or while in the dry docks. Repair activities include cleaning and painting of ship hulls.

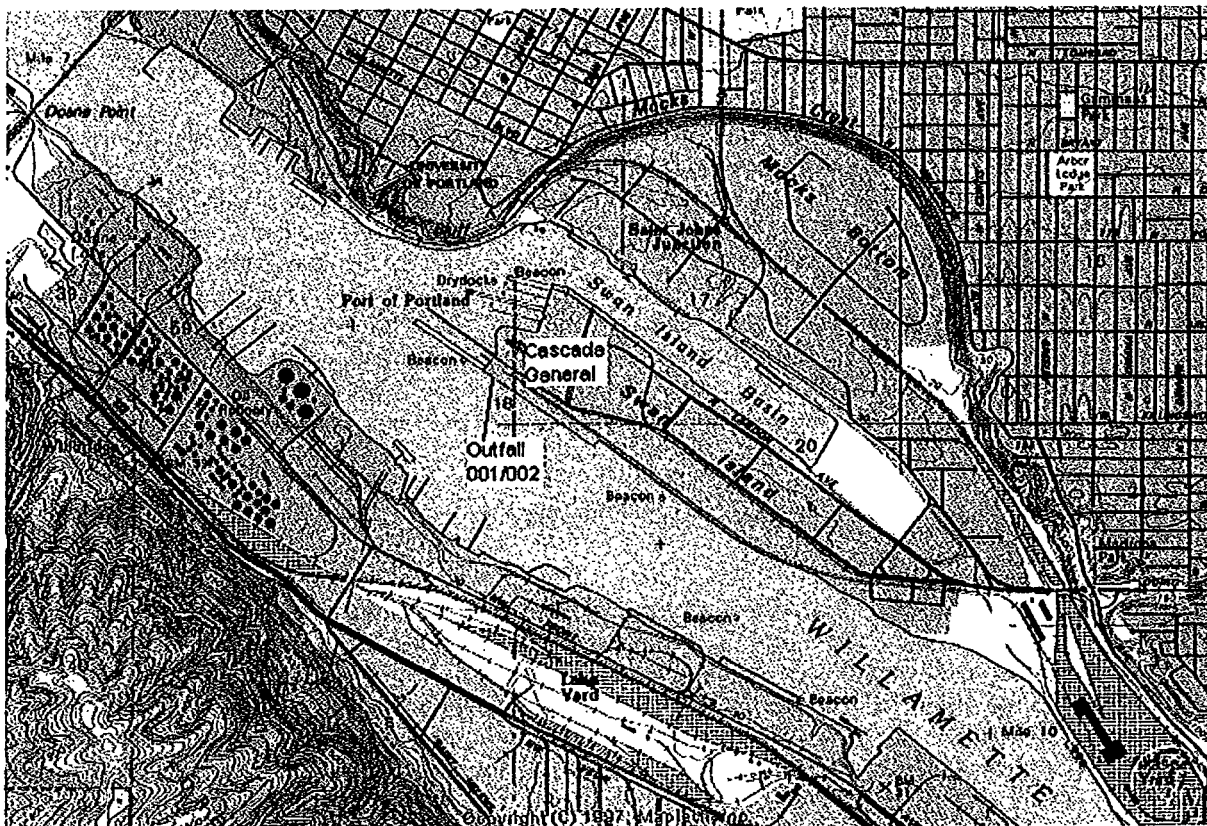


Figure 1: Facility and Outfall Location

2.2 Wastewater Characteristics, Treatment and Discharge

Vigor has not discharged wastewater under this permit for a number of years. The last discharge was of cooling water in July of 2007. Vigor does, however, have the capacity to discharge wastewater (including stormwater) from eight (8) different outfalls covered under the proposed permit (see Figure 2). These outfalls and the wastewater sources discharged from the outfalls are described below.

When in operation, outfalls 001 and 002 utilize the same pipe for discharge to the Willamette River at the southwestern portion of the facility. Outfall 001 discharges treated ballast/bilge water from ships and treated tank wash water. Outfall 002, discharges stormwater and process water from the dry docks and the buildway. When stormwater and wastewater from the dry docks and/or buildway are being discharged, ballast water is not discharged. Thus, these waste streams are sampled separately.

The treatment for discharges from outfall 001 consists of settling, oil skimming, heating and further skimming, and an oil-water separation. The wastewater is treated on a batch basis and the treated wastewater is sampled prior to discharge to surface waters. If the treated wastewater meets applicable permit limits, the wastewater may be discharged under the proposed permit. Otherwise, it is discharged to the City of Portland sanitary sewer. The oil recovered from the treatment process is stored in holding tanks. It is periodically tested and sold to recyclers. Waste materials from the settling tanks are disposed in a landfill under applicable solid waste rules and regulations. The NPDES permit renewal application states that the average flow rate for the operations contributing wastewater to outfall 001 is 0.098 million gallon per day (MGD). (Note: the application for the 2004 permit gave an average flow rate of 0.23 MGD). During the term of the 2004 permit, Vigor did not discharge any wastewater from outfall 001; all wastewater was discharged to the sanitary sewer.

Outfall 002, which discharges process wastewater and stormwater from the dry docks and buildway (see Figure 2 for location), goes to the Willamette River through the same pipe as Outfall 001. The process wastewater is generated from ship repair and maintenance activities including hydroblasting, pressure washing, sand blasting, painting, and other repair/maintenance activities. These waste streams are collected from the dry dock and directed to a treatment system separate from the ballast water treatment system. The treatment system for the stormwater and the process wastewater operates on a batch mode and includes equalization, grit removal, flocculation, clarification and filtration. The flow rate is dependent on rainfall and blasting operations. The NPDES permit renewal application states that the long-term average flow rate for the operations contributing wastewater to outfall 002 is expected to be 0.095 MGD (the application for the 2004 permit gave an average flow rate of 0.1 MGD). During the term of the 2004 permit, Vigor did not discharge any wastewater from outfall 002; all wastewater was discharged to the sanitary sewer.

Outfalls 003 and 004 were outfalls servicing dry dock 4, which has been removed. Therefore the permit no longer addresses outfalls 003 and 004.

When utilized, outfalls 005 through 010 may discharge non-contact cooling water from ships in dry docks 1, 3, and 5. These outfalls are actually just "sally ports" (openings) in the sides of the dry docks. Some ships need to operate heat exchangers for refrigeration, air conditioning, and/or other equipment while the ship is undergoing repairs in dry dock. Water from the river is circulated through the heat exchangers and discharged back to the river. The non-contact cooling water is discharged via hoses (with diameters ranging from 2 inches to 6 inches) through the sally ports. While each of the dry docks is assigned two outfalls, only one outfall at each dry dock is expected to be used at a time. Dry dock 5 is new to the facility and its outfalls, 009 and 010, are new outfalls for the proposed permit.

The total maximum flow rate of cooling water discharged from outfalls 005 through 010 is expected to be 1.45 MGD (this flow is less than the flow rate considered in the fact sheet/evaluation report for the 2004 permit). The maximum effluent temperature is expected to be 32°C or less. This temperature (32°C) is based on the highest value reported for a discharge from any dry dock, and was from dry dock 4 (which is no longer located at the facility) in September of 2000. The maximum expected flow is estimated since flow varies greatly depending on the ships being repaired

and monitoring data is very limited (during the term of the current term, non-contact cooling discharges only occurred during two months, and these discharges were very minimal). Most of the cooling water utilized at the dry docks is not discharged (it is sent to the city's sanitary sewer system) since the volumes are small.

2.3 Changes in Operation

Vigor has added an additional dry dock (5) and a buildway, which is used for barge construction and steel fabrications. Activities at the dry dock and buildway include welding, grinding, blasting painting, and vehicle traffic. Stormwater falling on the buildway will be routed for treatment and discharged via outfall 002.

2.4 Stormwater

Except for the storm runoff from the dry docks and the buildway, all stormwater at the facility is covered by a separate NPDES permit (the industrial stormwater general permit (1200-Z)).

2.5 Outfalls

As mentioned in Section 2.2, above, there are seven physical outfalls at the facility. Outfalls 001 and 002 share the same physical discharge pipe into the Willamette River. This pipe has a 185 foot long diffuser with 11 discharge ports and is connected to a dock in an orientation parallel to the river flow. Outfalls 003 and 004 no longer exist. Outfalls 005 and 006 are hoses fed through "sally ports" (openings) in Dry Dock 1. Outfalls 007 and 008 are hoses fed through "sally ports" (openings) in Dry Dock 3. Outfalls 009 and 010 are hoses fed through openings in the side of Dry Dock 5.

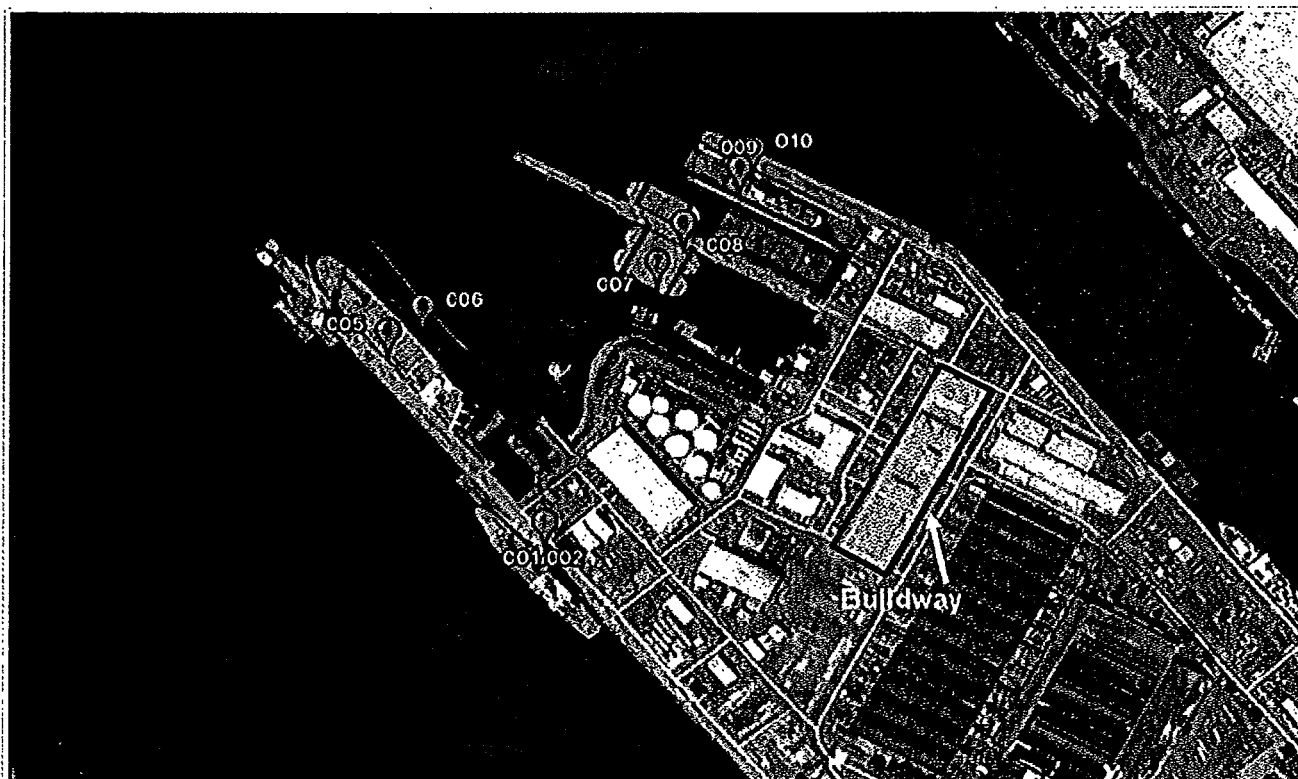


Figure 2: Outfall and Buildway Locations

2.5 Other Wastewater Streams

Vigor also accepts wastewaters generated at other facilities. These wastewaters are treated at the Vigor facility and discharged to the City of Portland's sanitary sewer. Accepting these wastewaters subjects Vigor to EPA's Centralized Waste Treatment (CWT) requirements. Since these waste streams are discharged to the sanitary sewer, the CWT requirements are implemented through the industrial wastewater permit issued by the City of Portland. The NPDES permit considered here does not authorize the discharge of CWT wastewaters.

3.0 RECEIVING WATER

When discharges occur, the receiving water is the lower Willamette River. As shown in Figure 1, the discharges are located at the northwest end of Swan Island in Portland.

3.1 Water Quality Standards

The applicable water quality standards for Rock Creek are found in Oregon Administrative Rule (OAR) 340-041 (Willamette River Basin). These standards are intended to be protective of the beneficial uses for the basin. These beneficial uses, listed in OAR 340-041 Table 340A, are as follows:

- Public and Private Domestic Water Supply,
- Industrial Water Supply,
- Irrigation,
- Livestock Watering,
- Fish and Aquatic Life,
- Wildlife and Hunting,
- Fishing,
- Boating,
- Water Contact Recreation,
- Aesthetic Quality, and
- Hydro Power.

The applicable water quality standards are also found in Oregon Administrative Rule (OAR) 340-041. They are intended to be protective of the beneficial uses for the basin, as listed above. Selected water quality standards for the Willamette River are presented in Tables 1 and 2.

Table 1: Selected Applicable Conventional Water Quality Criteria For Conventional Parameters (From OAR 340-041)	
Parameter	In-stream Water Quality Criteria
Dissolved Oxygen	Cool Water Aquatic Life Criteria (applies in summer): ≥ 6.5 mg/L (absolute minimum for surface samples)
pH	≥ 6.5 and ≤ 8.5
Temperature	The 7-day average maximum temperature of a stream identified as a migration corridor may not exceed 20 °C (68 °F) – Insignificant anthropogenic inputs are allowed
Turbidity (OAR 340-041-0036)	No more than a ten percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity.

Table 2: Selected Applicable Water Quality Criteria for Toxic Parameters		
Parameter	Unit	Acute Criteria for Protection of Freshwater Aquatic Life
Arsenic (pentavalent) ^c	µg/L	850
Arsenic (trivalent)	µg/L	360
Chromium (hexavalent)	µg/L	16
Copper	µg/L	^a 17.7
Lead	µg/L	^a 82
Pentachlorophenol	µg/L	^b 20
Zinc	µg/L	^a 117
^a Hardness dependent criteria. A hardness of 100 mg/L was used. ^b pH dependent criteria. The values presented above are based on a pH of 7.8. ^c There is no numeric criterion for Pentavalent Arsenic (Arsenic V). The value presented is for guidance only.		

3.2 Receiving Stream Water Quality

Section 303(d) of the Clean Water Act requires each state to develop a list of water bodies that do not meet state surface water quality standards after implementation of technology-based controls. The state is then required to complete a Total Maximum Daily Load (TMDL) for water bodies on the 303(d) list. The TMDL must address water quality on a basin-wide scale to ensure overall water quality standards will be met.

When discharging, Vigor discharges wastewater to the portion of the Willamette River that is listed as being water quality limited in the Department's 2004/2006 303(d). Table 3, below, includes the parameters for which water quality standards in the Willamette River are not met and the season when standards are exceeded.

Table 3: 2004/2006 303(D) Listing Information		
Stream Segment	Parameter	Season
Willamette River (Mouth to Willamette Falls)	Aldrin	Year-around
	Bacteria (fecal coliform)	Fall/Winter/Spring
	Biological Criteria	Year-around
	DDT & DDE (DDT metabolite)	Year-around
	Dieldrin	Year-around
	Iron	Year-around
	Manganese	Year-around
	Mercury	Year-around
	Polychlorinated Biphenyls (PCBs)	Year-around
	Pentachlorophenol	Year-around
	Polycyclic Aromatic Hydrocarbons (PAHs)	Year-around
	Temperature	Summer

Of the pollutants contained in the 303(d) list, iron, mercury, manganese and temperature have the potential to be present in the facility's effluent. Based on monitoring data and information provided in the permit renewal application, discharges are not expected to contribute bacteria, pesticides (DDT, DDE, aldrin, and dieldrin), PCBs¹, pentachlorophenol, or PAHs at detectable levels. A temperature TMDL for the Willamette River was finalized in September of 2006. A discussion of the temperature issues associated with the discharge is presented in Section 4.3.2. A discussion of the other pollutants of concern is also presented in Section 4.

3.3 Threatened & Endangered Species

Species of anadromous salmonids that use the lower Willamette River near EOS include chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), and cutthroat trout (*O. clarki*). Resident salmonid game species include cutthroat trout. Bull trout do not occur in this area of the Willamette River.

On March 16, 1999, the National Marine Fisheries Service (NMFS) listed chinook salmon in the Lower Columbia River Evolutionary Significant Unit (ESU) as a threatened species under the Endangered Species Act (ESA). On March 13, 1998, NMFS listed the Lower Columbia River ESU steelhead trout stocks as a threatened species under the ESA. These species utilize the Willamette River and its tributaries. The Willamette River has been designated as critical habitat for listed chinook salmon and steelhead by the NMFS.

Based on the fish use and spawning use maps contained in OAR 340-041 (Figures 340A and 340B), the designated fish use for this segment of the Willamette River is as a salmon and Steelhead migration corridor with no designated spawning uses.

3.4 Regulatory Mixing Zone Analysis

OAR 340-041-0053 provides that the Department may suspend all or part of the water quality standards in a designated portion of the receiving water to serve as a zone of dilution for wastes and receiving waters to mix thoroughly. Chronic water quality standards for all parameters must be met at the edge of the defined Mixing Zone. Compliance with acute toxicity standards must be met at the edge of the Zone of Initial Dilution (ZID).

Mixing Zones and Zone of Initial Dilution

The mixing zone for Outfall 001/002 is defined in the 2004 permit as that portion of the Willamette River within a 10 meter radius from the points of discharge. The ZID for Outfall 001/002 is defined in the 2004 permit as that portion of the Willamette River within a 3 meter radius from the points of discharge. Outfall 001/002 consists of a 180 foot multi-port diffuser, which is parallel to the shore and hangs off the dock at -12 feet NGVD (National Geodetic Vertical Datum). The outfall consists of ports aimed outward (toward the main river) at a 20 degree downward angle. It is unclear at this time whether there are eleven or 5 ports on the outfall. Since the number of ports has a significant impact on the dilution at the edge of the mixing zone and ZID, the proposed permit includes the requirement that Vigor perform survey prior to discharging through Outfall 001/002 to verify the existence of eleven ports.

The mixing zones for Outfalls 005 – 008 are defined in the 2004 permit as that portion of the Willamette River within 10 meters in any direction from the discharge points. The discharges from these outfalls are through 2 to 6-inch diameter pipes or hoses which exit the dry dock through “sally ports”. The proposed permit also includes mixing zones for Outfalls 009 and 010 that are 10 meters in any direction from discharge points. The discharge from these outfalls is also through 2 to 6-inch diameter pipes or hoses which exit through openings in the dry dock. Because the primary pollutant of concern is temperature at outfalls 005 – 010, a ZID is not specified for these outfalls.

¹ While the renewal application indicated that PCBs are not believed present, no quantitative data is presented. Considering PCBs are a pollutant of concern in other environmental media at the facility, the proposed permit includes monitoring requirements for PCBs.

Two mixing zone studies to determine the available dilutions at the edge of the mixing zones have been submitted to DEQ. One study was submitted by URS consultants in July of 2004. This mixing zone study consisted of modeling using an EPA approved model (UM3 from the Visual Plumes suite). The modeling is based on a discharge through a diffuser with eleven (11) ports. The mixing zone study indicates that the discharge mixes with only a portion of the water column and the bulk of the dilution occurs before the plume surfaces. The mixing zone study estimates that for outfall 001/002 the flux average dilution at the edge of the mixing zone (MZ) is 141 and the centerline dilution at the edge of ZID is 22. An updated mixing zone study was submitted by Kennedy/Jenks Consultants in March of 2009. This study uses CORMIX, a different EPA-approved model. The modeling in this study assumes a diffuser with five (5) ports. It is unclear at this time whether the diffuser has five or eleven ports. The permit evaluation report/fact sheet developed for the 2004 permit states that, in order to limit the port velocities to a range that would not create a fish attraction, the diffuser must not be modified to reduce the number of ports from eleven to five (as had been recommended by URS consultants). Therefore, the dilution values of 141 (MZ) and 22 (ZID) calculated for a diffuser consisting of eleven ports will be used in this permit evaluation. The proposed permit will include the prohibition of discharges from Outfall 001/002 until it can be ascertained that the diffuser has eleven ports.

For the non-contact cooling water discharges from outfalls 005-008, the 2004 mixing zone study indicated that the flux average dilution is 68 when the effluent flow rate is 0.052 m³/day (1.84 MGD), which is slightly higher than the maximum flow rate expected to be discharged from outfalls 005-010 during the term of this permit (1.45 MGD). Therefore, a dilution of 68 will be used in this permit evaluation for outfalls 005-010.

4.0 PERMIT LIMITATIONS

Two categories of effluent limitations exist for NPDES permits: 1) Technology based effluent limits, and 2) Water quality based effluent limits. Technology based effluent limits are developed by applying the national effluent limitation guidelines (ELGs) established by EPA for specific industrial categories. These limits are established to require a minimum level of treatment for industrial or municipal sources using available technology. Water quality based effluent limits are designed to be protective of the beneficial uses of the receiving water and are independent of the available treatment technology. In addition, when performing a permit renewal, there are existing permit limits. These may be technology-based limits, water quality-based limits, or limits based on best professional judgment. In general, when renewing a permit, the most stringent limits from each of these three categories apply.

4.1 Existing Permit Limitations

The existing (2004) NPDES permit includes waste discharge limitations for Outfall 001 as listed in Table 4, below.

Table 4: Existing Waste Discharge Limitations for Outfall 001	
Parameter	Daily Maximum Limitation
Flow	1.0 mgd
Total Suspended Solids	50 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.34 mg/L
Zinc ¹	2.6 mg/L
pH	Within the range 6.0 – 9.0 S.U.

¹ Total Recoverable

The existing (2004) NPDES permit also includes waste discharge limitations for Outfall 002 as listed in Table 5, below.

Table 5: Existing Waste Discharge Limitations for Outfall 002	
Parameter	Daily Maximum Limitation
Total Suspended Solids	10 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.23 mg/L
Lead ¹	0.15 mg/L
Tri-butyl tin ¹	0.02 mg/L
Zinc ¹	1.0 mg/L
pH	Within the range 6.0 – 9.0 S.U.

¹ Total Recoverable

The 2004 permit also contains a condition prohibiting any discharge from Outfall 002 until the permittee demonstrates that the discharge does not exhibit toxicity. This demonstration would include implementing a Department approved plan that includes provisions for conducting Whole Effluent Toxicity (WET) testing.

For Outfalls 005 through 008, the existing (2004) NPDES permit includes a waste discharge limitation for temperature (excess thermal load) of 184×10^6 Kcal/day (daily maximum).

4.2 Technology-Based Effluent Limitations

EPA has developed effluent limitation guidelines (ELGs) for many types of industries. These ELGs are codified in the Code of Federal Regulations (CFR). The ELGs are typically expressed in terms of mass of a particular pollutant allowed per unit of production or unit of flow. ELGs are also expressed as concentration in which case the production is not relevant.

For existing industry types where EPA has established ELGs, three categories of effluent limitations may be developed. These categories are: Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT). BPT represents the minimum technology level and applies to all existing point sources discharges for which ELGs have been published. BCT replaces BPT for conventional pollutants, and BAT replaces BPT for non-conventional and toxic pollutants. BPT limitations must be met upon publication of the ELGs. EPA allows additional time for facilities to comply with BCT and BAT limitations.

The technology based standards for the Vigor facility are contained in 40 CFR 442 – Transportation Equipment Cleaning Point Source Category. Subpart C applies to “tank barges and ocean/sea tankers transporting chemical and petroleum cargos”. BPT limitations have been established for this category. BCT and BAT limits are the same as the BPT limits. The BPT limits are given in the table below:

TABLE 6: TECHNOLOGY BASED LIMITS		
Parameter	Monthly Average Limit (mg/L)	Daily Maximum Limit (mg/L)
BOD – 5 day	22	61
TSS	26	58
Oil & Grease	16	36
Cadmium	N/A	0.020
Chromium	N/A	0.42
Copper	N/A	0.10
Lead	N/A	0.14
Mercury	N/A	0.0013
Nickel	N/A	0.58
Zinc	N/A	8.3
pH	6 – 9 S. U.	

These ELGs apply to process wastewater from Transportation Equipment Cleaning (TEC) facilities. TEC process wastewater is defined as follows:

“all wastewater associated with cleaning the interiors of tanks including: tank cars; rail tank cars; intermodal tank containers; tank barges; and ocean/sea tankers used to transport commodities or cargos that come into direct contact with the interior of the tank or container. At those facilities that clean tank interiors, TEC process wastewater also includes wastewater generated during washing vehicle exteriors, equipment and floor washings, TEC contaminated storm water, wastewater prerinse cleaning solutions, chemical cleaning solutions, and final rinse solutions. TEC process wastewater is defined to include only wastewater generated from a TEC subcategory. Therefore, TEC process wastewater does not include wastewater generated from cleaning hopper cars, or from food grade facilities discharging to a POTW. Wastewater generated from cleaning tank interiors for the purposes of maintenance and repair on the tank is not considered TEC process wastewater. Facilities that clean interiors solely for the purposes of repair and maintenance are not regulated under this subpart”

As noted above, TEC process wastewater excludes facilities that clean interiors solely for the purposes of repair and maintenance. Since the activities conducted by Vigor are primarily repair and maintenance, EPA’s effluent limitation guidelines do not apply to the discharge from the facility. While the effluent limitation guidelines do not apply to Vigor, it is expected that the characteristics of the wastewater discharged from the facility would be similar to those considered in the TEC effluent limitation guidelines. Therefore, the Department will consider the EPA effluent limitation guidelines in determining pollutants to be regulated and applicable effluent limits.

4.3 Water Quality-Based Effluent Limitations

This section determines pollutants of concern and evaluates each parameter to determine whether the concentration of the pollutant in the discharge represents a "reasonable potential to exceed" water quality standards in the receiving stream (Willamette). If the discharge concentration of a particular pollutant has a reasonable potential to exceed water quality standards, then water quality based effluent limits are established for that pollutant.

4.3.1 Pollutants of Concern

Vigor has not discharged from outfalls 001 or 002 under the current (2004) permit. Since no recent discharge data are available, the list of pollutants of concern for these outfalls are based on the list developed for the 2004 permit, updated with information submitted as part of the most recent permit renewal application. The list of pollutants of concern developed for the 2004 permit was determined using EPA's effluent limitation guidelines for the TEC industry, effluent data from discharge monitoring reports, 303(d) parameters and monitoring conducted for the NPDES permit application.

Outfall 001

At outfall 001, the pollutants of concern listed during the development of the 2004 permit were: TSS, Oil & Grease, temperature, cadmium, chromium, copper, lead, mercury, nickel, zinc, and pH. Since the most recent permit renewal application also listed antimony, arsenic, iron and selenium as being present in the effluent, these are also considered pollutants of concern.

Outfall 002

At outfall 002, pollutants of concern listed during the development of the 2004 permit were: TSS, Oil & Grease, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, tri-butyl tin, zinc, and pH. Since the most recent permit renewal application also listed antimony and arsenic as being present in the effluent, these are also considered pollutants of concern.

Outfalls 005 - 010

For the non-contact cooling water discharge from outfalls 005 - 010, the primary pollutant of concern is temperature. The proposed NPDES permit includes the requirement that Vigor update its Best Management Plant to ensure that the sanitary wastewaters (black water and gray water) from vessels on dry dock or at berth be discharged to the City of Portland sanitary sewer system. A temporary holding tank may be used if connection to the sanitary sewer is not possible. The contents of the tank must be hauled on a periodic basis to a sewage treatment plant or to an authorized discharge point to the sanitary sewer collection system.

4.3.2 Water Quality Analysis

The following is an analysis of the potential water quality impacts for each of the pollutants of concern. If warranted by a determination of reasonable potential to exceed a water quality criterion, an effluent limitation is also derived for the parameter.

Total Suspended Solids

For TSS, there are no water quality standards. The effluent limits from the 2004 NPDES permit, which are more stringent than the technology based effluent limits, will be applied at outfall 001/002.

Oil & Grease

OAR 340-41-0007(14) does not specify a numeric standard for oil & grease. However, the rules do include a prohibition against objectionable discoloration, scum, oily sheen, or floating solids; or coating of aquatic life with oil films. To prevent oily sheen, the Department is proposing to retain the 10 mg/L daily maximum effluent limit, which is the same as the limit listed in the 2004 NPDES permit.

pH

As noted in *Section 3.1 Water Quality Standards*, the water quality standard for pH for the Willamette Basin is 6.5 - 8.5. The pH limit in the 2004 NPDES permit was 6.0 - 9.0 at outfall 001/002. With the dilution available within

the mixing zone, the discharge from the Vigor facility will be able to meet the water quality standard for pH at the edge of the mixing zone (see the pH reasonable potential worksheet, Attachment H). Thus, a pH of 6.0 – 9.0 is proposed for the discharge from outfall 001/002.

Temperature

This segment of the Willamette River serves as a migration corridor for salmonids. OAR 340-041-0028(4)(d) states that the 7-day average maximum temperature of a stream identified as a migration corridor may not exceed 20 °C (68 °F). For streams that do not meet water quality standards, OAR 340-041-0028(12) states the following:

“Following a temperature TMDL or other cumulative effects analysis, waste load and load allocations will restrict all NPDES point sources and nonpoint sources to a cumulative increase of no greater than 0.3 degrees Celsius (0.5 Fahrenheit) above the applicable criteria after complete mixing in the water body, and at the point of maximum impact.”

Since a temperature TMDL has been completed for the Willamette River, the above provision from OAR 340-041-0028(12) applies. The TMDL gave a “bubble allocation” to all of the smaller point sources (including Vigor) in the middle and lower reach of the Willamette River (RM 50 to 0). Individual allocations were not assigned to sources under the bubble allocation. Rather, the TMDL allows the smaller sources to discharge at current permitted levels and the Department tracks the total heat load used under the bubble allocation limit.

Currently Permitted Excess Thermal Loads: The current (2004) permit includes a temperature (excess thermal load) effluent limitation of 184×10^6 Kcal/day (daily maximum) for outfalls 005-008. While the current permit contains no numeric temperature limitations for outfalls 001 and 002, the permit was issued based on certain maximum flow rates and temperatures, and maximum permitted thermal loads may be derived from these. At outfall 001 the maximum permitted flow under the 2004 permit was 1.0 MGD and the maximum expected effluent temperature was 28 °C (from 2004 evaluation report). For outfall 002 the maximum expected flow rate was 0.83 MGD and the maximum expected effluent temperature was 28 °C (both values are from the 2004 evaluation report). Based on these flows and temperatures, and using the equation given below, the maximum excess thermal loads under the 2004 permit would be a 17×10^6 Kcal/day for outfall 001 and 14×10^6 Kcal/day for outfall 002. The total maximum excess thermal load allowed under the 2004 permit is therefore 215×10^6 Kcal/day.

Excess Thermal Load Equation:

$$ETL = \Delta T * Q * C_p * SW * 0.252$$

Where:

ETL = Excess thermal load (10^6 Kcal/day)

ΔT = Maximum allowable effluent temperature minus criterion 68°F (20°C) in degrees F

Q = Discharge flow (mgd)

C_p = Specific heat of water (1 Btu/lb °F)

SW = Specific weight in lb/gallon (8.34 lb/gallon)

0.252 = conversion from million BTU/day to Kcals/day

Proposed Excess Thermal Loads:

The proposed permit contains excess thermal loads for outfalls 001 and 002 that are based on the values calculated above. Thus, outfall 001 has an excess thermal load limitation of 17×10^6 Kcal/day and outfall 002 has an excess thermal load limitation of 14×10^6 Kcal/day. For outfalls 005 through 010, the proposed permit contains a cumulative excess thermal load based on the maximum expected flow rate (1.45 MGD) and the maximum expected temperature (32 °C). This excess thermal load limitation is 37×10^6 Kcal/day.

The proposed total permitted excess thermal load limitation for the facility is 68×10^6 Kcal/day, a decrease of 147×10^6 Kcal/day from the total permitted value in the 2004 permit. (This reduction is based on a reduction in the total expected flow rates from the facility.)

Thermal Plume Criteria

The Department's water quality standards include temperature thermal plume limitations in OAR 340-041-0053(d). This section of the rules contains criteria to prevent potential adverse impacts that may result from thermal plumes. The temperature thermal plume limitations that the Department has adopted are similar to the recommendations in the April 2003 EPA Region 10 Temperature guidance. The criteria as they apply to the Vigor discharge are discussed below:

- OAR 340-041-0053(d)(A): *Impairment of an active salmonid spawning area where spawning redds are located or likely to be located.*

Vigor discharge: There is no salmonid spawning in this segment of the Willamette River. This segment of the Willamette River serves as a migration corridor for salmonids.

- OAR 340-041-0053(d)(B): *Acute impairment or instantaneous lethality is prevented or minimized by limiting potential fish exposure to temperatures of 32 °C or more to less than 2 seconds.*

Vigor discharge: The maximum expected effluent temperature from outfall 001/002 is 28°C, so this discharge is not expected to cause an acute impairment or instantaneous lethality. At the other outfalls (005-010), the maximum expected effluent temperature is expected to be 32°C. Mixing zone modeling indicates that this temperature will immediately (well below 2 seconds in travel time) drop below 32°C as the effluent mixes with the ambient water. Therefore, these discharges are not expected to cause an acute impairment or instantaneous lethality either.

- OAR 340-041-0053(d)(C): *Thermal shock caused by a sudden increase in water temperature is prevented or minimized by limiting potential fish exposure to temperatures of 25 °C or more to less than 5% of the cross-section of 100% of the 7Q10 flow of the waterbody.*

Vigor discharge: An analysis of the temperature impacts of the effluent indicates that when the combined effluent plumes from all outfalls reach 2% of the river's cross-sectional area, the plumes' temperatures will never be over 25°C unless the ambient river conditions approach 25°. Thermal shock occurs when ambient river conditions are suddenly increased from relatively low temperatures to temperatures above 25°C. An increase this small will not likely result in thermal shock.

- OAR 340-041-0053(d)(D): *Unless ambient temperature is 21 °C or greater, migration blockage is prevented or minimized by limiting potential fish exposure to temperatures of 21 °C or more to less than 25% of the cross-section of 100% of the 7Q10 flow of the waterbody.*

Vigor discharge: For a critical scenario related to the Vigor discharge, as the river temperature approaches 21°C (20.9°C), the resulting temperature of effluent plume when it reaches 25% of the river's cross-sectional area will be 20.93°C. This is clearly a de minimis increase which prevents or minimizes migration blockage.

Thus, the analysis indicates that the discharge from the Vigor facility meets the temperature thermal plume limitations in OAR 340-041-0053(d).

Toxic Pollutants

As noted above, the toxic pollutants of concern at outfall 001 are antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium and zinc. The toxic pollutants of concern at outfall 002 are antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, tri-butyl tin and zinc.

To determine whether the discharge has a reasonable potential to exceed water quality standards for the above-referenced pollutants, a spreadsheet that simulates the approach in EPA's *Technical Support Document for Water Quality Based Toxics* (EPA March 1991) was used. Maximum effluent concentrations, water quality criteria, and mixing zone data were used to determine whether the discharge has a reasonable potential to exceed water quality standards. The analyses use the mixed hardness of the discharge and the receiving stream at the zone of initial dilution (ZID) and the mixing zone for calculating water quality criteria for pollutants that have hardness dependent criteria. Because the discharge from outfall 001 is likely to contain a mixture of fresh water and sea water, the hardness of the discharge from this outfall is expected to be much higher than the hardness of the discharge from outfall 002.

The toxic pollutants of concern at outfall 001 (antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium and zinc) were analyzed to determine if the levels of these pollutants represent a "reasonable potential to exceed" water quality standards. The results of these analyses are presented in Attachment A for aquatic life criteria and Attachment B for human health criteria.

The toxic pollutants of concern at outfall 002 (antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium and zinc) were analyzed to determine if the levels of these pollutants represent a "reasonable potential to exceed" water quality standards. The results of these analyses are presented in Attachment C for aquatic life criteria and Attachment D for human health criteria. Since there are no numeric criteria for tri-butyl tin, a reasonable potential analysis was not conducted for this pollutant. However, effluent limits were developed for the exiting (2004) NPDES permit and these limits are retained in the current permit.

The results indicate that the discharge from outfall 001 has reasonable potential to exceed water quality criteria for arsenic (human health criteria) and lead. The discharge from outfall 002 has reasonable potential to exceed water quality criteria for arsenic (human health criteria), copper and lead.

For the pollutants that have a reasonable potential to exceed water quality standards (with the exception of arsenic), effluent limits were calculated using another spreadsheet that uses the approach in EPA's *Technical Support Document for Water Quality Based Toxics* (EPA March 1991). Arsenic is addressed below. For outfall 001, Attachment E includes the spreadsheet that calculates the effluent limit for lead. The maximum daily effluent limit for lead was calculated at 79 µg/L. For outfall 002, Attachment F includes the spreadsheet that calculates the effluent limits for copper and lead. The maximum daily effluent limits are 87µg/L for copper and 79 µg/L for lead.

Arsenic: Arsenic is found at naturally occurring elevated levels in many of the streams in Oregon, including the Willamette River. The Department is currently in the process of revising its human health arsenic criterion and will be proposing a criterion to better reflect the more toxic speciations of arsenic (inorganic arsenic) using a regionally appropriate health-risk calculation method. This will result in a shift of the standard from "total" to the "inorganic" fraction, and re-valuation to better reflect regional health risks. Given these imminent changes, the facility is being directed to ensure that current treatment facilities are being operated at the highest and best extent practicable and that they develop and implement an arsenic monitoring plan. These requirements are discussed below:

There are no federally mandated *Technology-based Effluent Limits* for arsenic for the facility's industrial category. There are no aquatic toxicity criteria for total arsenic and discharges from the facility are well below the aquatic toxicity criteria for other forms of arsenic (i.e., Arsenic III and Arsenic V). The facility's wastewater treatment facility is likely removing a portion of the arsenic. Based upon calculations using past monitoring

The waste discharge limitations for outfalls 001 and 002 are presented in Tables 7 and 8, below. (Discharge prohibitions, as described above, are also included in the proposed permit).

Table 7: Proposed Waste Discharge Limitations for Outfall 001	
<u>Parameter</u>	<u>Daily Maximum Limitation</u>
Flow	1.0 MGD
Total Suspended Solids	50 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.34 mg/L
Lead ¹	0.079 mg/L
Zinc ¹	2.6 mg/L
pH	Within the range 6.0 – 9.0 S.U.
Excess Thermal Load	17 x 10 ⁶ Kcal/day
Total Arsenic	Operate treatment processes at the highest and best extent practicable treatment ²

Table 8: Proposed Waste Discharge Limitations for Outfall 002	
<u>Parameter</u>	<u>Daily Maximum Limitation</u>
Total Suspended Solids	10 mg/L
Oil & Grease	10 mg/L
Copper ¹	0.087 mg/L
Lead ¹	0.079 mg/L
Tri-butyl tin ¹	0.02 mg/L
Zinc ¹	1.0 mg/L
pH	Within the range 6.0 – 9.0 S.U.
Excess Thermal Load	14 x 10 ⁶ Kcal/day
Total Arsenic	Operate treatment processes at the highest and best extent practicable treatment ²

¹ Total Recoverable

² The department has established a quarterly average of 18 µg/L total arsenic as a non-regulatory numeric benchmark to use in assessing whether the applicable treatment technology is providing the highest and best practicable treatment for arsenic in the discharge. An exceedance of this average value shall not in itself constitute a violation of this permit, but the Department will require the facility to submit a report to the Department detailing the conditions that resulted in the elevated value. The Department will use the report, monitoring information and operational records to assist in the determination of whether or not the facility was in compliance with the narrative operational requirements for total arsenic. The permittee must comply with this requirement until it can be determined by the Department that the facility does not have the reasonable potential to exceed the anticipated water quality criteria or the end of the permit term.

The discharge limitation for outfalls 005 through 010 is presented in Table 10, below. Similar to the 2004 permit's limitation, this is an aggregate limitation for the outfalls. Outfalls 009 and 010 are new, so these limitations are newly applied to them. The limitation has been reduced from 184×10^6 Kcal/day in the 2004 permit to 37×10^6 Kcal/day in the proposed permit (see Section 4.3.2, above, for a discussion on the topic).

Table 9: Proposed Waste Discharge Limitation for Outfalls 005 through 010	
Parameter	Daily Maximum Limitation
Excess Thermal Load	37×10^6 Kcal/day

6.3 Schedule B - Minimum Monitoring and Reporting Requirements

Schedule B includes the minimum monitoring and reporting requirements for the facility. The requirements listed under Schedule B have been updated from those in the 2004 permit and include the following:

- Outfall 001: New monitoring requirements for lead, whole effluent toxicity testing, and priority pollutant scans have been added. The permittee is also required to implement an Arsenic Monitoring Plan in accordance with Schedule D.
- Additional notes have been included with Schedule B. These notes (numbers 7 and 8) address detection levels and quantitation levels of monitoring analyses.

The tables below list the monitoring requirements contained in the proposed permit.

Table 10: Monitoring Requirements for Outfall 001 (Treated Ballast/Bilge Water and Tank Wash Water)		
Parameter	Minimum Frequency	Sample Type
Flow	Once for each batch	Measure
Copper ¹	Once for each batch	Grab
Lead ¹	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Total Suspended Solids	Once for each batch	Grab
Total Dissolved Solids	Once for each batch	Grab
Whole Effluent Toxicity Testing ⁴	1/year	Grab
Priority Pollutant Scan ⁵	1/year	Grab

Table 11: Monitoring Requirements for Outfall 002 (Treated Dry Dock and Buildway Process Water and Stormwater)		
Parameter	Minimum Frequency	Sample Type
Flow	Once per each batch	Measure
Copper ¹	Once for each batch	Grab
Lead ¹	Once for each batch	Grab
Tri-butyl tin ^{1, 2}	Once for each batch	Grab
Zinc ¹	Once for each batch	Grab
pH	Once for each batch	Grab
Oil & Grease	Once for each batch	Grab
Suspended Solids	Once for each batch	Grab
Iron ^{1, 3}	Once for each batch	Grab
Manganese ^{1, 3}	Once for each batch	Grab
Whole Effluent Toxicity Testing ⁴	2/year	Grab
Priority Pollutant Scan ⁵	1/year	Grab

Table 12: Monitoring Requirements for Outfalls 005 through 010 (Treated Dry Dock and Buildway Process Water and Stormwater)		
Parameter	Minimum Frequency	Sample Type
Flow	Once per each vessel	Measure
Temperature	Once per each vessel	Measure
Excess Thermal Load (Daily Maximum)	Once per each vessel	Calculate

Schedule B Notes:

1. Total recoverable
2. Sampling for tri-butyl tin is required when surface preparation is performed on the underwater hull of vessels containing tri-butyl tin coatings
3. Sampling is proposed until such time as Vigor collects 4 samples for these parameters
4. Results are to be reported the month following receipt of test results.
5. The permittee must perform chemical analysis of the effluent for the specific toxic pollutants listed in Tables II and III of Appendix D of 40 CFR 122 (including PCBs), inorganic arsenic, iron and manganese in accordance with the sampling frequency specified above. The effluent samples must be composites, except where sampling volatile compounds and cyanide. For these pollutants, at least four discrete samples (not less than 100 mL) collected over the operating day are acceptable. Also, each cyanide aliquot must be collected and composited into a larger container which has been preserved with sodium hydroxide to insure sample integrity.
6. The daily maximum excess thermal load must be calculated using the daily maximum temperature and the total discharge flow for the day. Excess thermal loads must be calculated using the formula below. If the calculation results in a thermal load value less than zero, the results must be recorded as zero.

$$ETL = \Delta T * Q * C_p * SW * 0.252$$

Where:

ETL = Excess thermal load (10⁶ Kcal/day)

ΔT = effluent temperature (°F) minus criterion (68°F)

Q = Discharge flow (mgd)

C_p = Specific heat of water (1 Btu/lb °F)

SW = Specific weight in lb/gallon (8.34 lb/gallon)

0.252 = conversion from million BTU/day to Kcals/day

7. The permittee must ensure that all monitoring analysis reports contain both the QL and detection level of the method as defined below:

Detection Level: Same as the "Method Detection Limit" (MDL) derived using 40 CFR 136 Appendix B (40 CFR 136, Appendix B).

Quantitation Limit: Same as the Method Reporting Limit (MRL). It is the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

8. Whenever possible, the permittee should use a test method, as indicated in 40 CFR 136.3 (or an approved alternative under 40 CFR 136.4 or 136.6), with a Quantitation Limit (QL) that is lower than the permitted effluent limit or water quality criteria for priority pollutant scans. A list of the analytic methods approved by the department and the applicable QLs are located in the document Revised RPA IMD, Appendix B Quantitation Limits Tables, November 2007 available from DEQ and also located on the web at <http://www.deq.state.or.us/wq/pubs/imds/rpaammend.pdf>. Due to the difficulty of achieving the total arsenic QL of 0.05 ug/l reported in the Revised RPA IMD, the facility is required (when applicable) to use a method with a minimum analytic range of 0.5 ug/l.

6.4 Schedule D - Special Conditions

The conditions contained in schedule D of the proposed permit are similar to those in the 2004 permit and address the following issues:

- Whole Effluent Toxicity Testing – This language has been updated from the 2004 permit language to reflect applicable Departmental policies.
- Spills and Unplanned Discharges – This language has been updated from the 2004 permit language to reflect applicable Departmental policies.
- Environmental Supervision and Management – This language is the same as that contained in the 2004 permit.
- Environmental Best Management Practices – This language was previously in Schedule C of the 2004 permit and has been updated to require the plan to address system flushing prior to discharge and to address the cleaning of the dry docks prior to direct discharge of stormwater.
- Containment Booms – This language is the same as that contained in the 2004 permit.
- Pollution Prevention Program – This language is the same as that contained in the 2004 permit.
- Discharge of uncontaminated stormwater - This language is the same as that contained in the 2004 permit.

6.6 Schedule F - NPDES General Conditions

These conditions are standard to all NPDES permits and include language regarding operation and maintenance of facilities, monitoring and record keeping, and reporting requirements. The General Conditions were revised in 2010. A summary of the changes is as follows:

- There are additional citations to the federal Clean Water Act and CFR, including references to standards for sewage sludge use or disposal.
- There is additional language regarding federal penalties.
- Bypass language has been made consistent with the CFR.
- Overflow language has been eliminated.
- Requirements regarding emergency response and public notification plans have been made more explicit.
- Language pertaining to duty to provide information has been made more explicit.
- Confidentiality of information is addressed.
- A definition of CBOD has been added.

7.0 NEXT STEPS

7.1 Public Comment Period

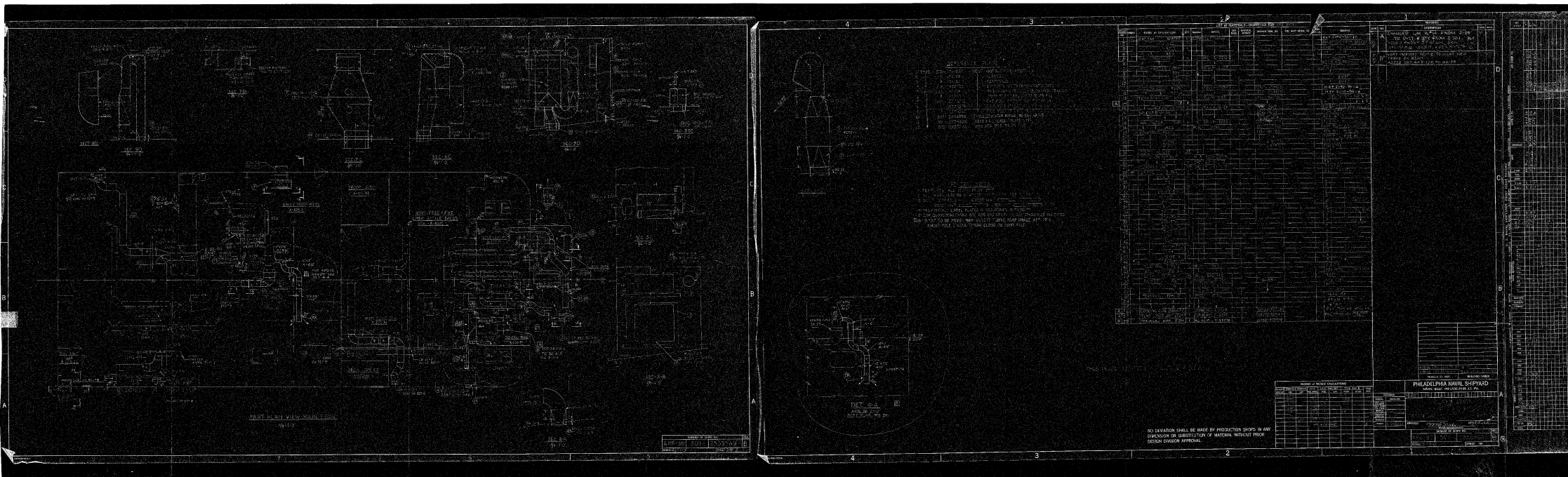
The proposed NPDES permit and this evaluation report will be made available for public comment. A public notice of the proposed permit will be mailed to parties on the Department's public notice mailing lists (WQ: PN (public notice) State, WQ: Multnomah County, and WQ: All Permits). To be included on the Department's mailing list, please visit our website at: <http://www.deq.state.or.us/news/publicnotices/PN.asp> and select the link "Sign up to get DEQ info by e-mail" on the left side of the page.

7.2 Response to Comments

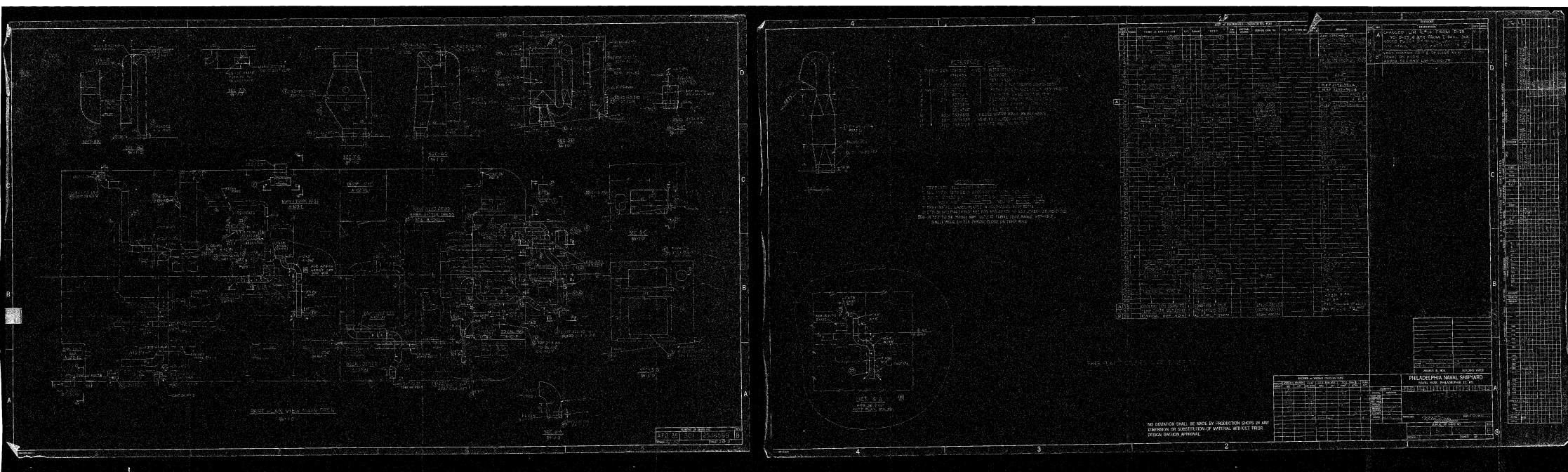
The Department will respond to comments received during the comment period. All those providing comment will receive a copy of the Department's response. Interested parties may also request a copy of the Department's response. Once comments are received and evaluated, the Department will decide whether to issue the permit as proposed or make changes to the permit or deny the permit.

7.3 Modifications to Fact Sheet and Permit Evaluation Report

Depending on the nature of comment and any changes made to the proposed permit modification as result of comment, this fact sheet/evaluation report may be modified. The Department may also choose to update the fact sheet/evaluation report through a response to comments.



NWMAR119343



NWMAR119344

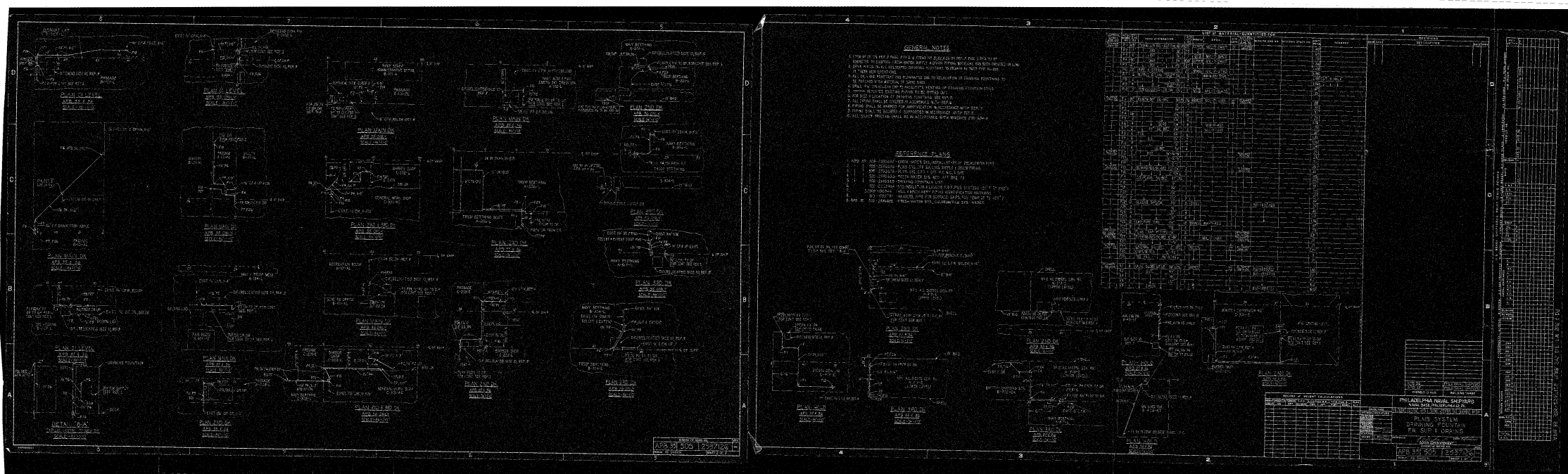
PLAN - MAIN DECK
SCALE: 1/8" = 1'-0"

2											3			
LIST OF MATERIAL QUANTITIES FOR ONE SWIP											REVISIONS			
ITEM NO.	SYMBOL	NAME OF OPERATION	QTY.	MEASURE	SPEC.	BIN LEVEL	MATERIAL SOURCE	SHIP'S DWG NO.	STC. NAVY STOCK NO.	UNIT	REMARKS	DATE REV.	REVISIONS DESCRIPTION	DATE APPR.
1		WELD ANGLE	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
2		AGRAVE	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
3		HEATER	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
4		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
5		CONTROLLER	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
6		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
7		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
8		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
9		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
10		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
11		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
12		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
13		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
14		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
15		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
16		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
17		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
18		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
19		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
20		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
21		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
22		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
23		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
24		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
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30		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
31		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
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39		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
40		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
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84		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
85		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
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87		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
88		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
89		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
90		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
91		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
92		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
93		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
94		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
95		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
96		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			
97		32-0	1	LB	ML-10550		5500-10550	5500-10550	5500-10550		SWIP 10550			

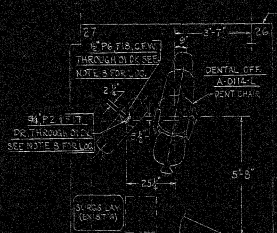
RECORD of WEIGHT CALCULATIONS									
WEIGHT (POUND ST)	DATE	IN	OFF	V.O.S	AS MASS	L.O.G	W.P.	T.G.S	FEAR 3
						APT		POST	STED
		116		35'		6'		10'	
		1010		37'					
		230		37'		22'		20'	120'
		720		37'		5'			120'
	12			33'			14'		133'
	94			32'				9'	

PHILADELPHIA NAVAL SHIPYARD									
NAVAL BASE, PHILADELPHIA 12, PA.									
10	11	12	13	14	15	16	17	18	19
VENTILATION & AIR COND'G									
MODIFICATIONS									
MAIN DECK FRS 22-23									
APPROVED <i>Richard</i> DATE 4-2-56									
DESIGN SUPERINTENDENT									
BUREAU OF SHIPS NO.									
APB35 501 2536570									
SCALE: AS NOTED SHEET 7 OF 1									

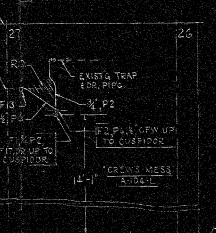
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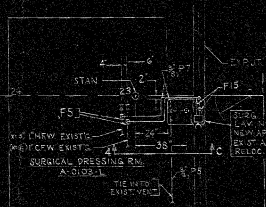
NWMAR119346



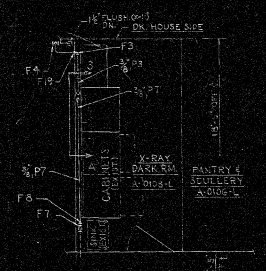
PLAN VIEW OF LEVEL
FRS 26 TO 27 P
APB 35436



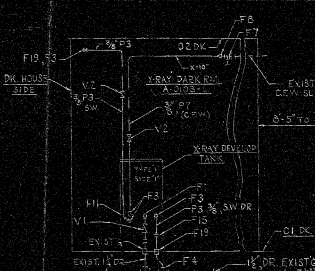
PLAN VIEW W/IN DECK
FRS 26 TO 27 P
APB 35436



PARTIAL PLAN VIEW OF LEVEL
FRS 22 TO 24 P
APB 35436



PARTIAL PLAN VIEW OF LEVEL
FRS 21A TO 22 P
APB 35436



ITEM NO.	NAME OF OPERATION	QTY	UNIT	SPEC.	SIM. MATERIAL	BUSHPIS DWG. NO.	STOCK NO.	UNIT	REMARKS
117	COUPLING WED 5/4"	2	BRZ	MIL-F-1193	III				
118	REINFORCING RING 6" ID	3	STL						2" DIA FLATBAR 9' LONG
119	5" DIA	1							2" DIA FLATBAR 23' LONG
120	ROTAMETER ORIFICE 5"	3	COMP						
121	BYPASS	3							
122	5/4" DIA	3	BRZ						
123	1/2"	3							
124	1/4"	3							
125	PRESSURE GAUGE CHROMIUM	4	COMP	MIL-G-1937	III				2" DIA 1/4" BACK CONN
126	DIAL GAGE 4 1/2" DIA	3							
127	GAGES WITH TIT 5/8" DIA	1	STL	MIL-S-16115					SHOP MFR
128	201A107M	1							
129	CAP 1/2" DIA	7	BRZ	MIL-F-2467					
130	TUBE NUT 1/2"	14							
131	FERRULE 1/2"	14							STYLE 'B'
132	UNION TEE 1/2"	7							
133	BUSHING 1/2" X 1/2"	7	BRZ						WALWORTH EQUALIZER
134	ORIFICE 3/16" DIA	1	BRZ	MIL-S-16115					SHOP MFR SEE DET SOM
135	PLUG 1/2" S.B.	1	BRZ						
136	HOSE 1/2"	25	COMP						
137	PIPE NIPPLE 1/2" X 1/2"	12	BRZ	MIL-F-2763					2' LONG
138	BOSS WEL S.W. 1/2" X 1/2"	7	BRZ	MIL-M-1675					
139	WELL SOCK THERM. PROPS	7							
140	THERMOMETER 1/2"	7	COMP	MIL-T-172-18					
141	5/8" LONG STD HEX BOLT	28	ST	MIL-B-887					CADWORTH PLATED 4' LONG
142	1/2" DIA 1/2" ANG	18							
143	NAME PLATES 4 1/2" X 1 1/2"	44	ALUM	MIL-T-215-1					SEE LIST
144	UNION END PIPING 1/2"	1	COMP						
145	1/2"	1							
146	PLUG 1/2" S.B.	1							
147	HOSE 1/2"	1							

ITEM NO.	NAME OF OPERATION	QTY	UNIT	SPEC.	SIM. MATERIAL	BUSHPIS DWG. NO.	STOCK NO.	UNIT	REMARKS
148	COUPLING WED 5/4"	2	BRZ	MIL-F-1193	III				
149	REINFORCING RING 6" ID	3	STL						2" DIA FLATBAR 9' LONG
150	5" DIA	1							2" DIA FLATBAR 23' LONG
151	ROTAMETER ORIFICE 5"	3	COMP						
152	BYPASS	3							
153	5/4" DIA	3	BRZ						
154	1/2"	3							
155	1/4"	3							
156	PRESSURE GAUGE CHROMIUM	4	COMP	MIL-G-1937	III				2" DIA 1/4" BACK CONN
157	DIAL GAGE 4 1/2" DIA	3							
158	GAGES WITH TIT 5/8" DIA	1	STL	MIL-S-16115					SHOP MFR
159	201A107M	1							
160	CAP 1/2" DIA	7	BRZ	MIL-F-2467					
161	TUBE NUT 1/2"	14							
162	FERRULE 1/2"	14							STYLE 'B'
163	UNION TEE 1/2"	7							
164	BUSHING 1/2" X 1/2"	7	BRZ						WALWORTH EQUALIZER
165	ORIFICE 3/16" DIA	1	BRZ	MIL-S-16115					SHOP MFR SEE DET SOM
166	PLUG 1/2" S.B.	1	BRZ						
167	HOSE 1/2"	25	COMP						
168	PIPE NIPPLE 1/2" X 1/2"	12	BRZ	MIL-F-2763					2' LONG
169	BOSS WEL S.W. 1/2" X 1/2"	7	BRZ	MIL-M-1675					
170	WELL SOCK THERM. PROPS	7							
171	THERMOMETER 1/2"	7	COMP	MIL-T-172-18					
172	5/8" LONG STD HEX BOLT	28	ST	MIL-B-887					CADWORTH PLATED 4' LONG
173	1/2" DIA 1/2" ANG	18							
174	NAME PLATES 4 1/2" X 1 1/2"	44	ALUM	MIL-T-215-1					SEE LIST
175	UNION END PIPING 1/2"	1	COMP						
176	1/2"	1							
177	PLUG 1/2" S.B.	1							
178	HOSE 1/2"	1							

ITEM NO.	NAME OF OPERATION	QTY	UNIT	SPEC.	SIM. MATERIAL	BUSHPIS DWG. NO.	STOCK NO.	UNIT	REMARKS
179	COUPLING WED 5/4"	2	BRZ	MIL-F-1193	III				
180	REINFORCING RING 6" ID	3	STL						2" DIA FLATBAR 9' LONG
181	5" DIA	1							2" DIA FLATBAR 23' LONG
182	ROTAMETER ORIFICE 5"	3	COMP						
183	BYPASS	3							
184	5/4" DIA	3	BRZ						
185	1/2"	3							
186	1/4"	3							
187	PRESSURE GAUGE CHROMIUM	4	COMP	MIL-G-1937	III				2" DIA 1/4" BACK CONN
188	DIAL GAGE 4 1/2" DIA	3							
189	GAGES WITH TIT 5/8" DIA	1	STL	MIL-S-16115					SHOP MFR
190	201A107M	1							
191	CAP 1/2" DIA	7	BRZ	MIL-F-2467					
192	TUBE NUT 1/2"	14							
193	FERRULE 1/2"	14							STYLE 'B'
194	UNION TEE 1/2"	7							
195	BUSHING 1/2" X 1/2"	7	BRZ						WALWORTH EQUALIZER
196	ORIFICE 3/16" DIA	1	BRZ	MIL-S-16115					SHOP MFR SEE DET SOM
197	PLUG 1/2" S.B.	1	BRZ						
198	HOSE 1/2"	25	COMP						
199	PIPE NIPPLE 1/2" X 1/2"	12	BRZ	MIL-F-2763					2' LONG
200	BOSS WEL S.W. 1/2" X 1/2"	7	BRZ	MIL-M-1675					
201	WELL SOCK THERM. PROPS	7							
202	THERMOMETER 1/2"	7	COMP	MIL-T-172-18					
203	5/8" LONG STD HEX BOLT	28	ST	MIL-B-887					CADWORTH PLATED 4' LONG
204	1/2" DIA 1/2" ANG	18							
205	NAME PLATES 4 1/2" X 1 1/2"	44	ALUM	MIL-T-215-1					SEE LIST
206	UNION END PIPING 1/2"	1	COMP						
207	1/2"	1							
208	PLUG 1/2" S.B.	1							
209	HOSE 1/2"	1							

ITEM NO.	NAME OF OPERATION	QTY	UNIT	SPEC.	SIM. MATERIAL	BUSHPIS DWG. NO.	STOCK NO.	UNIT	REMARKS
210	COUPLING WED 5/4"	2	BRZ	MIL-F-1193	III				
211	REINFORCING RING 6" ID	3	STL						2" DIA FLATBAR 9' LONG
212	5" DIA	1							2" DIA FLATBAR 23' LONG
213	ROTAMETER ORIFICE 5"	3	COMP						
214	BYPASS	3							
215	5/4" DIA	3	BRZ						
216	1/2"	3							
217	1/4"	3							
218	PRESSURE GAUGE CHROMIUM	4	COMP	MIL-G-1937	III				2" DIA 1/4" BACK CONN
219	DIAL GAGE 4 1/2" DIA	3							
220	GAGES WITH TIT 5/8" DIA	1	STL	MIL-S-16115					SHOP MFR
221	201A107M	1							
222	CAP 1/2" DIA	7	BRZ	MIL-F-2467					
223	TUBE NUT 1/2"	14							
224	FERRULE 1/2"	14							STYLE 'B'
225	UNION TEE 1/2"	7							
226	BUSHING 1/2" X 1/2"	7	BRZ						WALWORTH EQUALIZER
227	ORIFICE 3/16" DIA	1	BRZ	MIL-S-16115					SHOP MFR SEE DET SOM
228	PLUG 1/2" S.B.	1	BRZ						
229	HOSE 1/2"	25	COMP						
230	PIPE NIPPLE 1/2" X 1/2"	12	BRZ	MIL-F-2763					2' LONG
231	BOSS WEL S.W. 1/2" X 1/2"	7	BRZ	MIL-M-1675					
232	WELL SOCK THERM. PROPS	7							
233	THERMOMETER 1/2"	7	COMP	MIL-T-172-18					
234	5/8" LONG STD HEX BOLT	28	ST	MIL-B-887					CADWORTH PLATED 4' LONG
235	1/2" DIA 1/2" ANG	18							
236	NAME PLATES 4 1/2" X 1 1/2"	44	ALUM	MIL-T-215-1					SEE LIST
237	UNION END PIPING 1/2"	1	COMP						
238	1/2"	1							
239	PLUG 1/2" S.B.	1							
240	HOSE 1/2"	1							

ITEM NO.	NAME OF OPERATION	QTY	UNIT	SPEC.	SIM. MATERIAL	BUSHPIS DWG. NO.	STOCK NO.	UNIT	REMARKS
241	COUPLING WED 5/4"	2	BRZ	MIL-F-1193	III				
242	REINFORCING RING 6" ID	3	STL						2" DIA FLATBAR 9' LONG
243	5" DIA	1							2" DIA FLATBAR 23' LONG
244	ROTAMETER ORIFICE 5"	3	COMP						
245	BYPASS	3							
246	5/4" DIA	3	BRZ						
247	1/2"	3							
248	1/4"	3							
249	PRESSURE GAUGE CHROMIUM	4	COMP	MIL-G-1937	III				2" DIA 1/4" BACK CONN
250	DIAL GAGE 4 1/2" DIA	3							
251	GAGES WITH TIT 5/8" DIA	1	STL	MIL-S-16115					SHOP MFR
252	201A107M	1							
253	CAP 1/2" DIA	7	BRZ	MIL-F-2467					
254	TUBE NUT 1/2"	14							
255	FERRULE 1/2"	14							STYLE 'B'
256	UNION TEE 1/2"	7							
257	BUSHING 1/2" X 1/2"	7	BRZ						WALWORTH EQUALIZER
258	ORIFICE 3/16" DIA	1	BRZ	MIL-S-16115					SHOP MFR SEE DET SOM
259	PLUG 1/2" S.B.	1	BRZ						
260	HOSE 1/2"	25	COMP						
261	PIPE NIPPLE 1/2" X 1/2"	12	BRZ	MIL-F-2763					2' LONG
262	BOSS WEL S.W. 1/2" X 1/2"	7	BRZ	MIL-M-1675					
263	WELL SOCK THERM. PROPS	7							
264	THERMOMETER 1/2"	7	COMP	MIL-T-172-18					
265	5/8" LONG STD HEX BOLT	28	ST	MIL-B-887					CADWORTH PLATED 4' LONG
266	1/2" DIA 1/2" ANG	18							
267	NAME PLATES 4 1/2" X 1 1/2"	44	ALUM	MIL-T-215-1					SEE LIST
268	UNION END PIPING 1/2"	1	COMP						
269	1/2"	1							
270	PLUG 1/2" S.B.	1							
271	HOSE 1/2"	1							

GENERAL NOTES

- ALL PIPING TO BE INSULATED WITH PLASTIC FOAM INSULATION IN ACCORDANCE WITH SERVICE TEMP RANGE OF 28°-55° F. REF #2
- HANGERS TO BE INSTALLED AS PER REF #2
- ALL CHILLED WATER PIPING SHALL BE CLEANED, FLUSHED AND TESTED IN ACCORDANCE WITH GEN. SPEC. FOR SHIPS 5460-40. SEE TEST MEMO #480402 OF
- ALL BRAZING TO BE IN ACCORDANCE WITH NAV SHIPS 240-637-2
- INSTALL PIPING AS SHOWN, TO SUIT CONDITIONS ABOARD SHIP
- CAGE PIPING TO BE RUN AND SUPPORTED CLOSE TO OVERHEAD AND STRUCTURE FOR SUPPORT AND PROTECTION AGAINST DAMAGE.

RECORD OF WEIGHT CALCULATIONS									
WEIGHT	WEIGHT IN POUNDS	VOL	L.C. FROM M.D.		T.C. FROM S.				
NO.	ON	OFF	AB. BASE	WRS	LAFF	PORT	STAR	ALT.	PLAN

GENERAL NOTES

- LOW ROPING AND RELOCATION REUSE EXISTING MATERIAL AS MUCH AS POSSIBLE.
- WHERE PIPING IS PENETRATING W/F FRAMES, THE WEIGHT OF COLLAR MATERIAL USED IS TO BE SIMILAR TO WEIGHT OF EXISTING W/F FRAME (SEE DETAIL 2A OF PLAN NO. LST 542-3103-109183).
- 3/4" INDICATES PIPING TO BE REMOVED.
- DECK DRAINS SHALL BE INSTALLED FLUSH WITH DECK AND WITH WELD/READ GROUND DOWN SMOOTH SO AS NOT TO FORM A POCKET.
- 2"X1/2" IS TO BE SPRAYED WHERE GALVANIZED IS REMOVED BY WELDING AT SHIP INSTALLATION.
- WELDING TO BE ACCOMPLISHED IN ACC/W MIL-STD 22, 4 MIL-STD 278.
- SEA CHESTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- PROTECTION SLEEVE F-34 IS NOT TO BE GALVANIZED.
- PROTECTION SLEEVE F-34 TO BE WELDED TO STEEL FLANGE J-11 WITH ELECTRODES CONFORMING TO MIL-E-6705 TYPE MIL 50.

8. FUTURE STEEL SEAT HEAT F-34 SHALL BE REMOVED THE LENGTH OF THE PROTECTION SLEEVE TO ASSURE PROPER SEATING OF COVER.

9. ALL SEA CHEST ASSEMBLY TO BE SHORTER THAN PROTECTION SLEEVE TO 50 PERCENT.

10. CUNI TUBING TO BE RENT A MINIMUM OF 3 TIMES THE NOMINAL PIPE SIZE AND STEEL PIPE A MINIMUM OF 5 TIMES THE NOMINAL PIPE SIZE.

11. ALL SWING CHECK VALVES MUST BE INSTALLED IN A FORE AND AFT POSITION.

12. PIPING SHALL BE SUPPORTED TO REDUCE VIBRATION TO A MINIMUM AND INSTALLED IN ACC/W REF NO. 5.

13. SILVER BRAZED PIPING JOINTS SHALL BE IN ACC/W MIL-STD 22 (FIG 45) AND MIL-STD 278 TYPE F-3 PIPING. GRIND OR GRIND BRAZING (ILLOY MIL-E-6705) SHALL BE USED.

14. DUCTOR DRAINAGE SYSTEM NEW INSTALLATION INCLUDING SUCTION BRANCHES AND REDUCTORS SHALL BE TESTED HYDROSTATICALLY TO 225 PSI. SUBASSEMBLY MAY BE TESTED AS A UNIT IN THE SHOP.

15. NON-FERROUS PIPING SHALL NOT BE PAINTED THE OPERATING TEMPERATURE OF PIPING IS UNDER 300°F. PORTABLE SUBMERSIBLE PUMPS SHALL BE SEMI-PERMANENTLY INSTALLED SO THAT THEY MAY BE REMOVED.

16. LABEL PLATES SHALL BE IN ACC/W LABEL PLATE LIST AND REF. 6 MATERIAL FOR LABEL PLATES TO BE ANODIZED ALUMINUM METAL PHOTO PROCESS MIL-SPEC MIL-PRC-17450.

LABEL PLATE LIST
QUANTITIES FOR ONE SHIP

NO.	METHOD	REF. NO.	DESCRIPTION	TYPE	QTY.	REMARKS
1	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
2	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
3	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
4	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
5	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
6	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
7	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
8	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
9	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
10	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
11	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
12	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
13	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
14	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
15	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
16	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
17	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
18	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
19	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
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87	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
88	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
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98	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
99	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING
100	XX	18	PORTAL BEARING	ST	1	FOR PORTAL BEARING

REFERENCES

NO.	TITLE	BUSHIPS DIV. NO.
1	ARGENT OF DRAINAGE SYSTEM F.W.D.	APB35-1430-8330
2	1" AFY PR28 PLAN F.ELEV.	85831
3	PIPE AND FLUSHING F.W.D.	576-253665
4	DRAINWELLS AND STRAINER BOXES	TYPE-203-247592
5	GENERAL TYPE PLAN-PIPE HANGERS	910-1385794
6	PSI'S STD. PLAN LABEL PLATES	9205-216405

MATERIAL SOURCE

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LIST OF MATERIALS QUANTITIES FOR ONE SHIP

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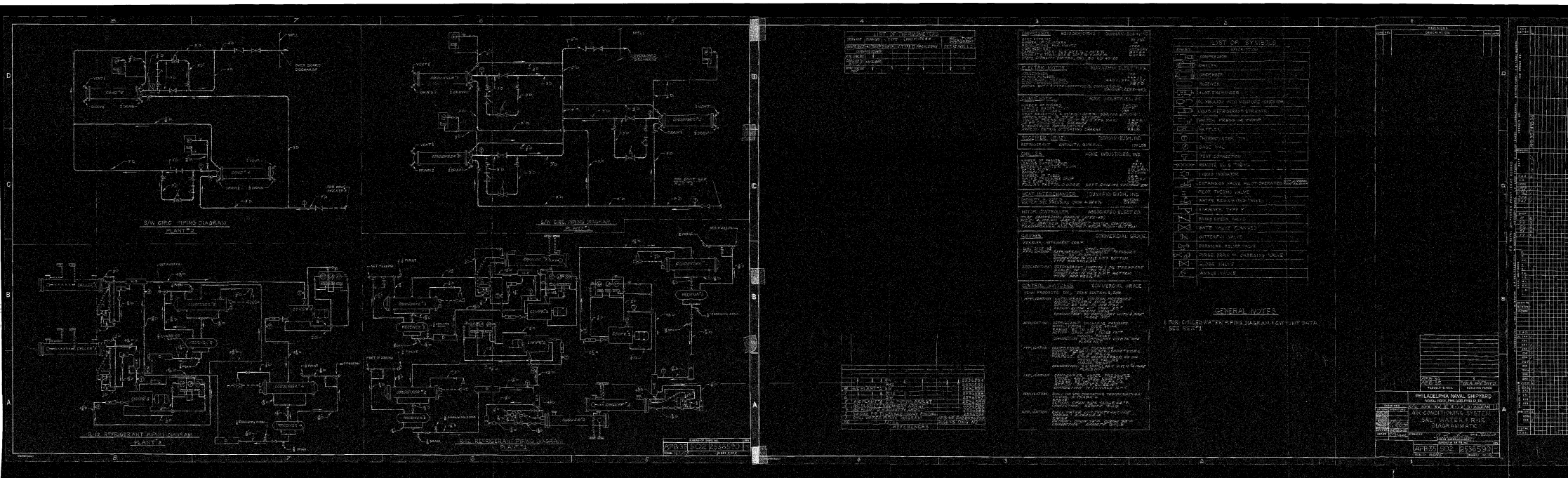
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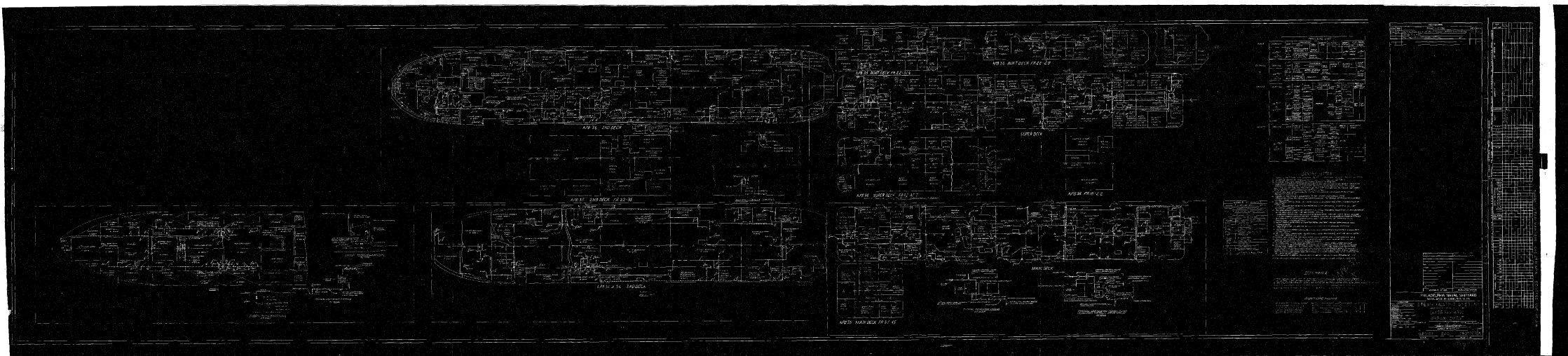
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SHIP DATA									
LINE	ITEM	DESCRIPTION	QTY	UNIT	PRICE	AMOUNT	DATE	BY	REMARKS
1	100	100	1	EA	100.00	100.00			
2	200	200	1	EA	200.00	200.00			
3	300	300	1	EA	300.00	300.00			
4	400	400	1	EA	400.00	400.00			
5	500	500	1	EA	500.00	500.00			
6	600	600	1	EA	600.00	600.00			
7	700	700	1	EA	700.00	700.00			
8	800	800	1	EA	800.00	800.00			
9	900	900	1	EA	900.00	900.00			
10	1000	1000	1	EA	1000.00	1000.00			
11	1100	1100	1	EA	1100.00	1100.00			
12	1200	1200	1	EA	1200.00	1200.00			
13	1300	1300	1	EA	1300.00	1300.00			
14	1400	1400	1	EA	1400.00	1400.00			
15	1500	1500	1	EA	1500.00	1500.00			
16	1600	1600	1	EA	1600.00	1600.00			
17	1700	1700	1	EA	1700.00	1700.00			
18	1800	1800	1	EA	1800.00	1800.00			
19	1900	1900	1	EA	1900.00	1900.00			
20	2000	2000	1	EA	2000.00	2000.00			
21	2100	2100	1	EA	2100.00	2100.00			
22	2200	2200	1	EA	2200.00	2200.00			
23	2300	2300	1	EA	2300.00	2300.00			
24	2400	2400	1	EA	2400.00	2400.00			
25	2500	2500	1	EA	2500.00	2500.00			
26	2600	2600	1	EA	2600.00	2600.00			
27	2700	2700	1	EA	2700.00	2700.00			
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30	3000	3000	1	EA	3000.00	3000.00			
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42	4200	4200	1	EA	4200.00	4200.00			
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45	4500	4500	1	EA	4500.00	4500.00			
46	4600	4600	1	EA	4600.00	4600.00			
47	4700	4700	1	EA	4700.00	4700.00			
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68	6800	6800	1	EA	6800.00	6800.00			
69	6900	6900	1	EA	6900.00	6900.00			
70	7000	7000	1	EA	7000.00	7000.00			
71	7100	7100	1	EA	7100.00	7100.00			
72	7200	7200	1	EA	7200.00	7200.00			
73	7300	7300	1	EA	7300.00	7300.00			
74	7400	7400	1	EA	7400.00	7400.00			
75	7500	7500	1	EA	7500.00	7500.00			
76	7600	7600	1	EA	7600.00	7600.00			
77	7700	7700	1	EA	7700.00	7700.00			
78	7800	7800	1	EA	7800.00	7800.00			
79	7900	7900	1	EA	7900.00	7900.00			
80	8000	8000	1	EA	8000.00	8000.00			
81	8100	8100	1	EA	8100.00	8100.00			
82	8200	8200	1	EA	8200.00	8200.00			
83	8300	8300	1	EA	8300.00	8300.00			
84	8400	8400	1	EA	8400.00	8400.00			
85	8500	8500	1	EA	8500.00	8500.00			
86	8600	8600	1	EA	8600.00	8600.00			
87	8700	8700	1	EA	8700.00	8700.00			
88	8800	8800	1	EA	8800.00	8800.00			
89	8900	8900	1	EA	8900.00	8900.00			
90	9000	9000	1	EA	9000.00	9000.00			
91	9100	9100	1	EA	9100.00	9100.00			
92	9200	9200	1	EA	9200.00	9200.00			
93	9300	9300	1	EA	9300.00	9300.00			
94	9400	9400	1	EA	9400.00	9400.00			
95	9500	9500	1	EA	9500.00	9500.00			
96	9600	9600	1	EA	9600.00	9600.00			
97	9700	9700	1	EA	9700.00	9700.00			
98	9800	9800	1	EA	9800.00	9800.00			
99	9900	9900	1	EA	9900.00	9900.00			
100	10000	10000	1	EA	10000.00	10000.00			

SHIP DATA										ITEM DATA									
LINE	ITEM	DESCRIPTION	QTY	UNIT	PRICE	AMOUNT	DATE	BY	REMARKS	ITEM	DESCRIPTION	QTY	UNIT	PRICE	AMOUNT	DATE	BY	REMARKS	
1	100	100	1	EA	100.00	100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
2	200	200	1	EA	200.00	200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
3	300	300	1	EA	300.00	300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
4	400	400	1	EA	400.00	400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
5	500	500	1	EA	500.00	500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
6	600	600	1	EA	600.00	600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
7	700	700	1	EA	700.00	700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
8	800	800	1	EA	800.00	800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
9	900	900	1	EA	900.00	900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
10	1000	1000	1	EA	1000.00	1000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
11	1100	1100	1	EA	1100.00	1100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
12	1200	1200	1	EA	1200.00	1200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
13	1300	1300	1	EA	1300.00	1300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
14	1400	1400	1	EA	1400.00	1400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
15	1500	1500	1	EA	1500.00	1500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
16	1600	1600	1	EA	1600.00	1600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
17	1700	1700	1	EA	1700.00	1700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
18	1800	1800	1	EA	1800.00	1800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
19	1900	1900	1	EA	1900.00	1900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
20	2000	2000	1	EA	2000.00	2000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
21	2100	2100	1	EA	2100.00	2100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
22	2200	2200	1	EA	2200.00	2200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
23	2300	2300	1	EA	2300.00	2300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
24	2400	2400	1	EA	2400.00	2400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
25	2500	2500	1	EA	2500.00	2500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
26	2600	2600	1	EA	2600.00	2600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
27	2700	2700	1	EA	2700.00	2700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
28	2800	2800	1	EA	2800.00	2800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
29	2900	2900	1	EA	2900.00	2900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
30	3000	3000	1	EA	3000.00	3000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
31	3100	3100	1	EA	3100.00	3100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
32	3200	3200	1	EA	3200.00	3200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
33	3300	3300	1	EA	3300.00	3300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
34	3400	3400	1	EA	3400.00	3400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
35	3500	3500	1	EA	3500.00	3500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
36	3600	3600	1	EA	3600.00	3600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
37	3700	3700	1	EA	3700.00	3700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
38	3800	3800	1	EA	3800.00	3800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
39	3900	3900	1	EA	3900.00	3900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
40	4000	4000	1	EA	4000.00	4000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
41	4100	4100	1	EA	4100.00	4100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
42	4200	4200	1	EA	4200.00	4200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
43	4300	4300	1	EA	4300.00	4300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
44	4400	4400	1	EA	4400.00	4400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
45	4500	4500	1	EA	4500.00	4500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
46	4600	4600	1	EA	4600.00	4600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
47	4700	4700	1	EA	4700.00	4700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
48	4800	4800	1	EA	4800.00	4800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
49	4900	4900	1	EA	4900.00	4900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
50	5000	5000	1	EA	5000.00	5000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
51	5100	5100	1	EA	5100.00	5100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
52	5200	5200	1	EA	5200.00	5200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
53	5300	5300	1	EA	5300.00	5300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
54	5400	5400	1	EA	5400.00	5400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
55	5500	5500	1	EA	5500.00	5500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
56	5600	5600	1	EA	5600.00	5600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
57	5700	5700	1	EA	5700.00	5700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
58	5800	5800	1	EA	5800.00	5800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
59	5900	5900	1	EA	5900.00	5900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
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61	6100	6100	1	EA	6100.00	6100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
62	6200	6200	1	EA	6200.00	6200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
63	6300	6300	1	EA	6300.00	6300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
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66	6600	6600	1	EA	6600.00	6600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
67	6700	6700	1	EA	6700.00	6700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
68	6800	6800	1	EA	6800.00	6800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
69	6900	6900	1	EA	6900.00	6900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
70	7000	7000	1	EA	7000.00	7000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
71	7100	7100	1	EA	7100.00	7100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
72	7200	7200	1	EA	7200.00	7200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
73	7300	7300	1	EA	7300.00	7300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
74	7400	7400	1	EA	7400.00	7400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
75	7500	7500	1	EA	7500.00	7500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
76	7600	7600	1	EA	7600.00	7600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
77	7700	7700	1	EA	7700.00	7700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
78	7800	7800	1	EA	7800.00	7800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
79	7900	7900	1	EA	7900.00	7900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
80	8000	8000	1	EA	8000.00	8000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
81	8100	8100	1	EA	8100.00	8100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
82	8200	8200	1	EA	8200.00	8200.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
83	8300	8300	1	EA	8300.00	8300.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
84	8400	8400	1	EA	8400.00	8400.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
85	8500	8500	1	EA	8500.00	8500.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
86	8600	8600	1	EA	8600.00	8600.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
87	8700	8700	1	EA	8700.00	8700.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
88	8800	8800	1	EA	8800.00	8800.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
89	8900	8900	1	EA	8900.00	8900.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
90	9000	9000	1	EA	9000.00	9000.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <td>REMARKS</td>	PRICE	AMOUNT	DATE	BY	REMARKS	
91	9100	9100	1	EA	9100.00	9100.00				ITEM	DESCRIPTION	QTY	UNIT <td>PRICE</td> <td>AMOUNT</td> <td>DATE</td> <td>BY</td> <	PRICE	AMOUNT	DATE	BY		

COOLING COILS TYPE DW

REFERENCE PLANS

REFERENCE PLANS		
NO	TITLE	PLAN NO
1	WIN DRAIN ARREST, BELOW MON DR, AND DR 28	44A-35-100-2750
2	ABOVE	44B-35-100-2750
3	ABOVE	44B-35-100-2750
4	ABOVE	44B-35-100-2750
5	CLASH DN 6 OF COLS - SEE ATTACH	570 44B-11-7001
6	SIZE OF TRUS 48	35B-02-11-7001
7	UN 6 ME UP 2000000	117000
8	REF 6W 100000, 10000	28200
9	VENTILAT, ON FEATHER WIT	44A-35-100-2750
10	REF LIST	28200

UNIT COOLER TYPE UW

[illegible]

GRAVITY COIL CHILLED WATER

GRAVITY COIL CHILLED WATER															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ITEM NO.	COIL NO.	QTS. BRG. PLAN NO.	SPACES SERVED	COIL SIZE	REQ. CAP. TONN	REQ. SP. TONN	QPM	MEAN H.P.	REF. TEMP.	REF. COIL TYPE	CON. THERM.	MEAS. F.P.	NO. SIZES		REMARKS
1	01-21	055-555	MISC. GUN. ROOMS MISC. A-C-101-M	3 3/8	5635	50°	5	48°	1	7-1/2	100%	237-1141	8 1/2		
2	1-72-1	055-555	A-101-M	1 1/4	1320	50°	5					237-1141			
3	01-25	055-555	C-101-M	3 3/8	3580	50°	4	42	1			237-1141			

PLANT NO.	CONNECTED LOAD TONS		CHILLED WATER GPM	
	APR 35	APR 36	APR 35	APR 36
1	137.80	111.60	568.20	458.50
2	123.22	143.02	507.60	456.80

SUMMARY OF EQUIPMENT SHOWN ON THIS PLAN

COOLING COILS			AIR FILTERS		
COIL SIZE	QUANTITY APR 85	APR 86	FILTER SIZE	QUANTITY APR 85	APR 86
48 SW	6	6	16 AF	2	0
47 SW	1	0	15 AF	8	0
46 SW	5	5	14 AF	1	0
45 SW	1	1	13 AF	5	0
42 SW	1	1	12 AF	8	0
28 LW	1	1			
14W	1	1			
34W	2	2			

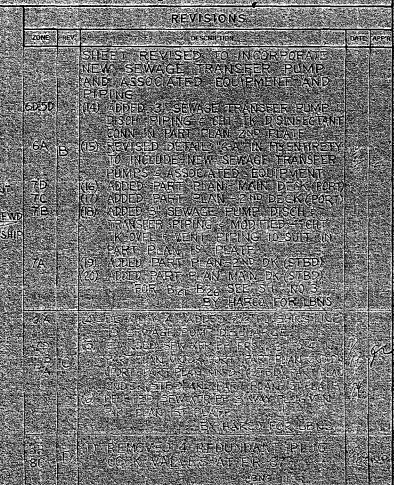
RECORD of WEIGHT CALCULATIONS

[illegible]

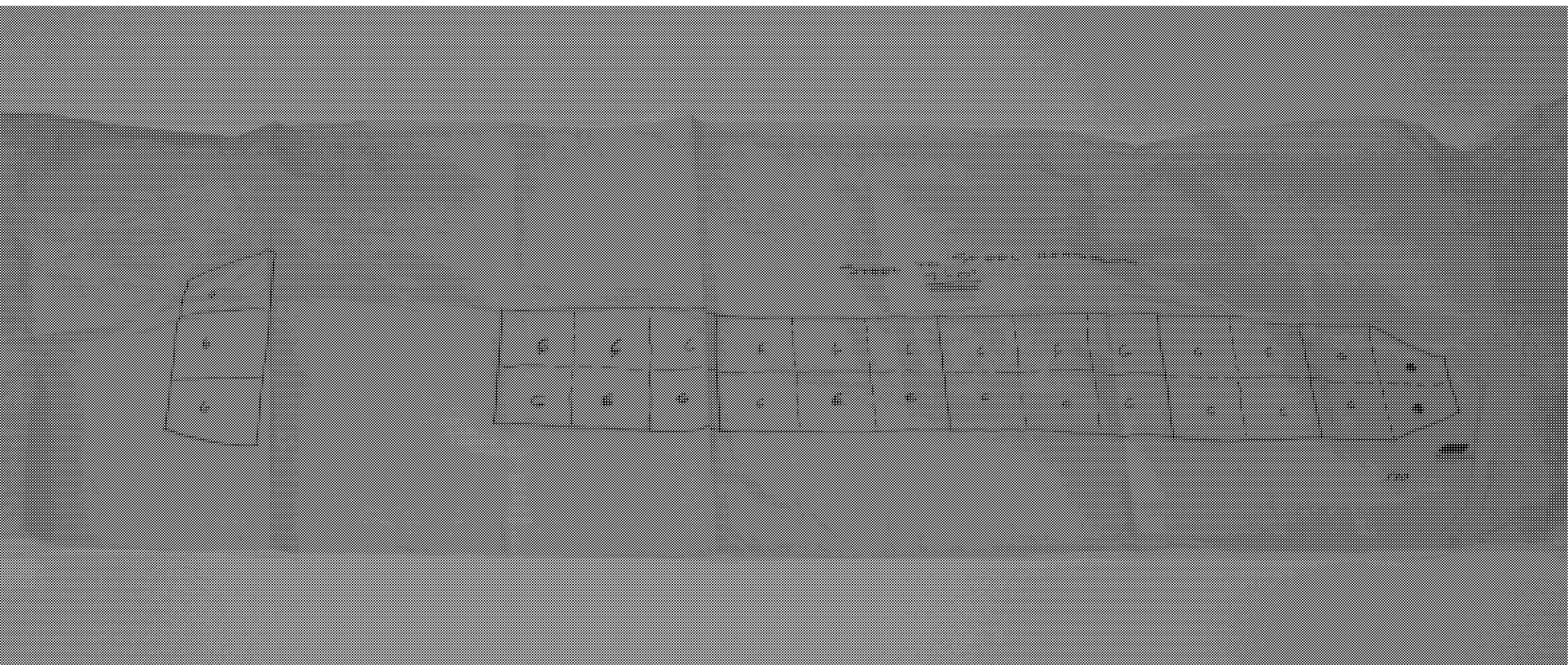
127

VENTILATION ARR'GT OF THERMOSTATIC CONTROLS FOR HEATERS & DETS.

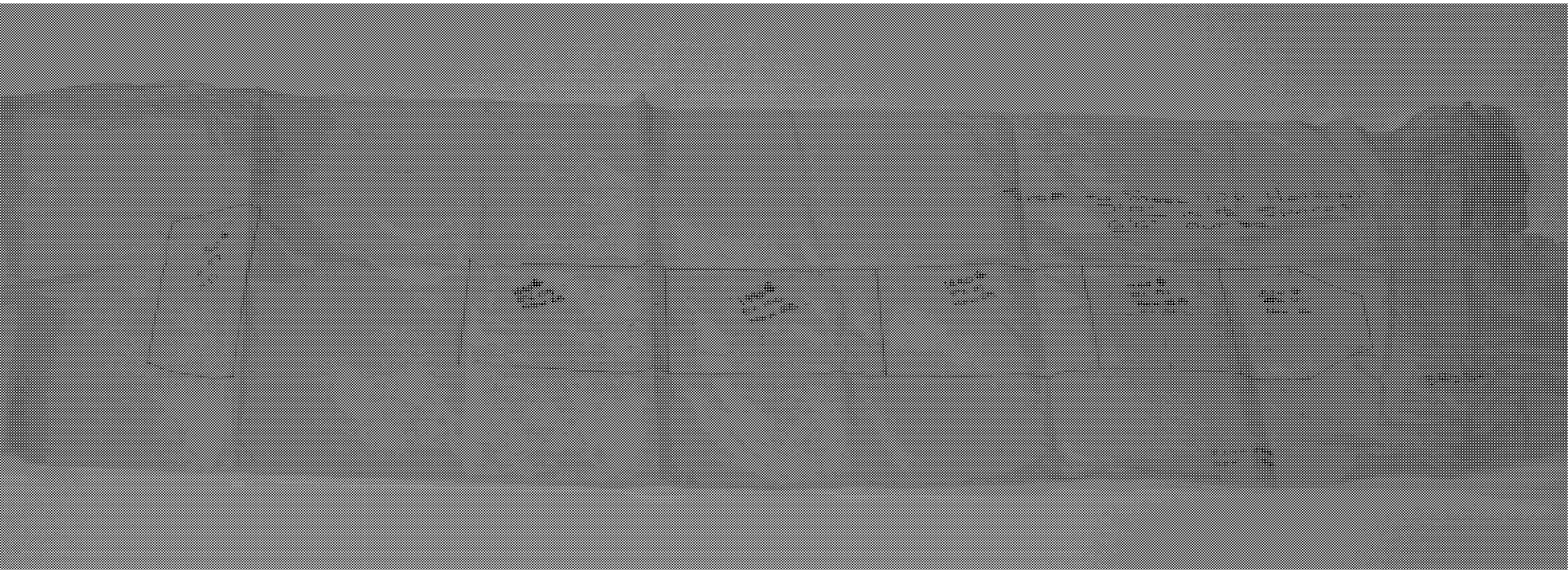
BUSHIPS NO. APB 35-SG802 - 85791 ALT.



JINGHEWENHUIBMS			
SIZE	CODE	DATE	REV
H 89219	DE1052505	4409055	D
SCALE	1:1000	SHEET	2 OF 3



NWMAR119363



NWMAR119364



11
12
316

146

2000
H 10
H 20

2000
H 10
H 20

2000
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